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ABSTRACT

This eighth yearbook of innovative learning strategies presents the following articles, grouped in three major sections. The first section, Program Models, contains: (1) "Welcome Back: Meeting the Needs of Nontraditional Students" (Kathy Carpenter); (2) "A Model Coordinated Curriculum for the First-Term Community College Learning Disabled Student" (Heidi E. Farra and M. Eileen Morelli); (3) "PLAE: An Innovative Model for Learning" (Sherrie L. Nist and others); (4) "Impact of Listening Skill Development on College Reading, Notetaking, and Study Skills" (Mary O'Hair and Sharon Wooden); and (5) "Promising Practices in Selling and Telling About the College Reading Program" (James E. Walker). The second section, Instructional Strategies, contains: (6) "Using a Weekly News Magazine to Develop Vocabulary and Cultural Literacy" (Edward J. Dwyer and Nancy Ross); (7) "Developmental Reading Professor" (Berta Parrish); (8) "Conquering Test Anxiety: A Strategy to Share with Students" (Walter Pauk); (9) "Using Directed Reading Activities to Increase Students' Receptiveness" (Keflyn X. Reed); and (10) "Using a Metacognitive-Schema Approach to Teach College Reading and Study Skills" (Alice M. Scales). The third section, Experimental Research, contains: (11) "Instrumental Enrichment Program: A Pilot Project" (Allen Greenbaum and others); and (12) "Computer and Non-Computer Instruction for College Readers" (Milford A. Jeremiah). (SR)

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EIGHTH YEARBOOK

T.J. BETENBOUGH, EDITOR
SHIRLEY A BIGGS, ASSOCIATE EDITOR

COLLEGE READING IMPROVEMENT
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The ideas expressed in the articles included in the Eighth Yearbook are solely those of the authors and do not necessarily reflect the views of the editors or the officers and members of the College Reading Improvement Special Interest Group of the International Reading Association

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CONTENTS

PART I: PROGRAM MODELS

Welcome Back: Meeting the Needs of Nontraditional Students 3
Kathy Carpenter - Kearney State College

A Model Coordinated Curriculum for the First-Term Community College Learning Disabled Student 9
Heidi E. Farra - University of Pittsburgh
M. Eileen Morelli - Community College of Allegheny County

PLAE: An Innovative Model for Learning 20
Sherrie L. Nist - The University of Georgia
Michele L. Simpson - The University of Georgia
Kate Kirby - The University of Georgia

Impact of Listening Skill Development on College Reading, Notetaking, and Study Skills 33
Mary O'Hair - New Mexico State University
Sharon Wooden - New Mexico State University

Promising Practices in Selling and Telling About the College Reading Program 39
James E. Walker - Texas Woman's University

PART II: INSTRUCTIONAL STRATEGIES

Using a Weekly News Magazine to Develop Vocabulary and Cultural Literacy 45
Edward J. Dwyer - East Tennessee State University
Nancy Ross - East Tennessee State University

Developmental Reading Professor 50
Berta Parrish - Embry-Riddle Aeronautical University

Conquering Test Anxiety: A Strategy to Share with Students 57
Walter Pauk - Cornell University

Using Directed Reading Activities to Increase Students' Receptiveness 65
Keflyn X. Reed - S.D. Bishop State Junior College

Using a Metacognitive-Schema Approach to Teach College Reading and Study Skills 73
Alice M. Scales - University of Pittsburgh

PART III: EXPERIMENTAL RESEARCH

Instrumental Enrichment Program: A Pilot Project . . . 92
Allen Greenbaum - Dyersburg State Community College
Diane Chambers - University of Minnesota-Duluth
JoAnn Crawford - Hendersonville, North Carolina

Computer and Non-Computer Instruction for College Readers 104
Milford A. Jeremiah - Morgan State University

PART I

PROGRAM MODELS

Welcome Back: Meeting the Needs of Nontraditional Students

Kathy Carpenter

Nontraditional students--those individuals who choose not to enroll in college immediately after high school or who enrolled but dropped out before graduating later are interested in re-entering post-secondary education--are a growing force on many college campuses today. Some prospective nontraditional students know they need further education to enhance their job opportunities while others would like to take classes purely for personal development and enjoyment. Yet many students who have been out of school two, five, ten, or twenty years are hesitant to go back. They may believe that they lack the skills necessary to succeed in college-level courses; this belief can make them apprehensive. They fear failure and this fear can immobolize them and lead them to discard the notion of pursuing post-secondary education.

Published reports warned post-secondary institutions to prepare for declining enrollments (The Western Interstate Commission for Higher Education, 1979; McNett, 1983), and the U. S. Department of Education predicted gradual decreases in higher education enrollments, specifically a 10 percent decline in full-time equivalent enrollments over the 1982-1992 decade (Ludwig & Stockton, 1987). However, Ludwig and Stockton (1987) argued that the predicted decline has not and will not materialize partly because of an increase in nontraditional students. They found that students over the age of 25 comprise about 39 percent of the total enrolled student body in higher education. Some age groups over 25 are expected to increase their participation through 1992, particularly those over 35 years of age.

Because of the influx of nontraditional students, some institutions have initiated special programs designed to support academic re-entry. One midwestern institution, a liberal arts

college with an open-door admission policy, serves approximately 9000 students and offers both undergraduate and graduate degrees. Grading is on the semester rather than the quarterly basis.

The campus Learning Center, opened in 1975, enrolls over 1200 students in developmental classes each year. Enrollment is voluntary, class size is limited to 15 students, and each class is worth one-hour credit on a pass/fail basis. A free tutoring service that provides assistance in almost all academic subjects is also available in the Learning Center and is utilized by over 2500 students yearly.

An institutional commitment to attract and retain nontraditional students led to the development of a four-step plan. The Learning Center, along with specific areas of Student Services and various academic departments, formulated supportive programs designed to assist the older student in re-establishing techniques and skills necessary for academic success while increasing self-concept and self-confidence.

Step One

The Director of Admissions ran an advertising campaign that provided information about a special enrollment package, one which enabled any individual who had been out of school for three or more years to enroll in three credit hours for $1.00. Special registration times were designated for nontraditional students, and representatives of the Academic Advising staff were available to assess students' interests and to assist them with registration.

Information about the special enrollment opportunities for nontraditional students was distributed to area schools, governmental agencies, and civic groups. College representatives spoke to organizations and clubs. In addition, newspaper, television, and radio announcements presented detailed information concerning the available opportunities.

Step Two

A needs assessment form was given to every nontraditional student

who registered. It was also sent to all nontraditional students previously enrolled. The results of this needs assessment enabled the personnel to determine the concerns, desires, and needs of the over 800 nontraditional students who returned the form.

Step Three

The Learning Center offered short courses, lasting four weeks, which were designed to cover special skill areas and give the hesitant student immediate feedback. Classes required two hours of in-class participation and two hours of laboratory assignments (computer assisted instruction) each week. A student could enroll in a number of these classes each semester, taking one or two the first four weeks, another one or two during the second four weeks, and, finally, one or two more classes during the latter part of the semester, earning one hour credit for each class completed. A synopsis of the content of the four-week classes is as follows:

1. Study Skills - Information and exercises on time management, efficient textbook study, use of margin notes and underlining, and memorization techniques are emphasized.

2. Listening and Notetaking - Instruction on effective listening, concentrating, identifying important concepts, organizing efficient notes, and using notes in reviewing prepare students for lecture-type courses.

3. Vocabulary Expansion - Development of a college-level vocabulary is achieved by a study of higher-level words and the use of contextual clues. Also included is a study of prefixes, suffixes, and root words.

4. Test Anxiety - Information on how to do better in all types of testing situations, self-relaxation techniques, and helpful habits that discourage cramming and encourage systematic preparations are tressed.

5. Reading Improvement I - Developing reading comprehension skills, improving reading rate, and reading for main ideas and significant details are the main areas of emphasis.

6. Reading Improvement II - (Prerequisite: Reading Improvement I) While continuing to improve reading rate as they maintain comprehension, students develop skills in scanning, skimming, discovering organization, and reading critically.

7. Spelling Improvement - An individualized approach is used to teach students self-correctional methods they can use to improve their spelling abilities. Work is done on spelling rules as well as specific spelling difficulties.

8. Writing a Research Paper - Designed for students who are enrolled in another course where a research paper is required, this class guides students through the entire process from the initial step of selecting and narrowing the topic to the final step of rewriting the final draft.

9. Critical Thinking - Instruction in inductive and deductive reasoning, analysis, and problem solving assists the student in becoming an active rather than a passive learner.

Student Services also initiated courses and activities for the nontraditional student. The Counseling Center in conjunction with the math department offers a semester-long class in math anxiety for three credit hours. Students review math, algebra, and geometry while examining feelings of anxiety that are often connected to the study of mathematics.

The Career Planning and Placement Office provides aptitude and interest testing at minimal cost. They also offer a four-week course in career exploration for one credit hour on a pass/fail basis. Students determine areas of aptitude and interest and then explore the educational requirements, job opportunities, and long-range expectations associated with career areas of their choice.

The Financial Aid Office provides special assistance to nontraditional students applying for scholarships, grants, loans, and work-study positions. In addition, they operate a job service which attempts to place students in part-time jobs both on campus and in the business community.

The Vice President of Academic Affairs surveyed area businesses

and manufacturers concerning the educational needs of their employees. Based on the results of the survey, departments designed special classes and programs to meet the needs of these returning students. For instance, a special Master's in Business Administration was designed for individuals whose undergraduate degree was earned in an area other than business. In return, the business community encourages employees to further their education and, in some cases, even offers financial incentives.

Step Four

A separate Orientation Day is set aside for nontraditional students prior to the opening day of classes each semester. This enables them to learn about the campus and what it has to offer nontraditional students without attending the regular orientation which is designed for traditional entering freshmen and their parents.

A lounge area in the Student Services building was designated as a nontraditional student lounge. Students utilize the area as a meeting place and a study area. Tutors often meet students in the lounge to assist them with subject matter. A bulletin board has messages that advise students of approaching activities, meetings, and events that are of special interest to nontraditional students.

The Home Economics Department sponsors a developmental laboratory where child development and pre-school education majors work with pre-school children, assessing their stages of development and growth. Participating children attend the developmental lab for two and one-half hours each weekday morning throughout the semester. The department was encouraged to give first preference to pre-school children of nontraditional parents, thereby allowing the parents to attend classes while their children are in the developmental lab.

The needs assessment was utilized in planning special activities for nontraditional students. The Counseling Center sponsors a Brown Bag Lunch and Forum every Tuesday and Wednesday noon in the nontraditional lounge. Meeting twice a week is necessary since many nontraditional students, particularly those who commute, are only on

campus two or three days a week. A topic of special interest to nontraditional students is presented by a guest speaker, explored by a panel, or discussed by the group.

A nontraditional student organization (NSO) plans social functions. Since the social interests of these students are quite different from those of the average college students, NSO plans at least one social event each month which includes the student and the student's family. A chili feed before or after a football game, a pot-luck supper before a basketball game, a Halloween party, or a treasure hunt followed by cocoa and cookies are examples of typical NSO activities. However, NSO also encourages participation in campus-wide activities by sponsoring a float in the Homecoming parade and attendance as a group at special dances and events. NSO works with campus activities and organizational coordinators to see that special speakers and events are scheduled for afternoon as well as evening engagements so that more nontraditional students will be able to attend.

Since the institution committed time, effort, and resources to the nontraditional student five years ago, major changes have occurred. The nontraditional enrollment has nearly doubled, and the number of re-entering or returning students increases every year. Administrators, faculty, and staff are more aware of the needs of this group of students and endeavor to make their college admission and matriculation enjoyable and rewarding experiences.

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A Model Coordinated Curriculum for the First-Term Community College Learning Disabled Student

Heidi E. Farra M. Eileen Morelli

In recent years, increasing numbers of post-secondary learning disabled (L.D.) students have presented themselves on college campuses and have requested special services. These students, adults with learning disabilities, have permanent disorders which affect the manner in which information is received, retained, and expressed (Barry, Brinckerhoff, Keeney, & Smith, 1983). L.D. students have average to above average intelligence; however, the information which they receive and process often becomes scrambled as it travels between/among the eye, the ear, the skin, and the brain. Common problem areas experienced by L.D. adults are deficits in one or more of the following: "reading comprehension, spelling, written expression, math, and problem solving" (Barry, Brinckerhoff, Keeney, & Smith, 1983). Other problems encountered by L.D. adults are problems with organization, time management, social skills, and perceptual skills.

Learning disabled students entering a community college environment as freshmen have little preparation to handle the rigors of college life; in essence, they are not "college wise." Many L.D. students who enter an open enrollment community college setting do so as this is perhaps the only post-secondary educational opportunity available to them (Francher, 1985). A lack of preparation in elementary and secondary programs and depressed college entrance placement and standardized test scores are frequently cited as reasons for the L.D. student's placement into the community college setting.

Learning disabled students may come to college with an attitude of a temporary stay due to unsuccessful previous encounters with academic work. In a study of L.D. adults, Buchanan and Wolf (1986) found that 78 percent of the learning disabled adults in their study

reported their educational experiences as being negative. These negative attitudes and feelings may be reversed if the students are successful during their early months in college. In addition to the many problems that L.D. students have with overall academic preparation, and their subsequent poor attitudes towards ability to handle college work, they may have minimal English grammar and writing skills

Initial Development of the Program

In the Fall of 1985, a large community college system in southwestern Pennsylvania granted permission to establish a pilot program to meet the needs of the increasing numbers of learning disabled students who were applying for the supportive services necessary to survive on the college campus. The increasing numbers of L.D. students at the community college were attributed to the fact that the "first generation" of identified L.D. students who had gone through their entire public schooling in programs for the learning disabled had now reached college age. Many of these students were seeking college-level supportive services similar to those which were provided during elementary and high school years. Of these L.D. students, a significant proportion had enrolled at the "open door" community college due to the fact that they did not meet traditional college entrance requirements at four-year public and private colleges and universities.

The need for a specialized supportive program for L.D. students was voiced by students who were exhibiting severe writing disabilities and also by developmental studies instructors in the English and Reading departments who were teaching these students. Most of the high school programs from which these L.D. students came focused almost exclusively on reading skills, thus limiting the amount of preparation in written language skills. At the college level, the demand for written work increases dramatically over that needed at the high school level.

Written Language and Learning Disabilities

Writing is the most complex form of communication as is demonstrated in the continuum which moves from listening, to speaking, to reading, and finally to writing. In 1984, Garnett and LaPorta stated "Very often students with learning disabilities find that their educational struggles converge in the complex act of writing." Sometimes it may take a learning disabled student two or three times longer than peers to complete a writing assignment. Students may become fatigued and frustrated with writing assignments.

Learning disabled students may have problems with weak organization, poor spelling, omissions, and insertions. Other observations of college-level L.D. writers are that they frequently fall into two "writing syndromes," one of which is the "end of the paper" syndrome where students see that they have nearly completed writing on all of the lines of a sheet of paper and quickly finish their writing to fit the paper rather than to complete the thought pattern and develop the theme. A second syndrome, "written words are forever," is demonstrated when students feel that once something has been written on paper, it is unchangeable. L.D. students also have difficulty in forming letters and they tend to make many graphic imperfections, erasures, and grammatical and semantic errors (Behrmann, 1984).

In a study of college-level L.D. students' written language, Vogel and Moran (1982) found that the written language of L.D. students was significantly more deficient than the peers when the work was scored holistically. Most of the problematic areas of L.D. students' written language were in mechanics, organization, development, and style. Buchanan and Wolf (1986) did a comprehensive study of L.D. adults and found that the highest area of academic problems was in the categories of writing and spelling. Written language has been reported to be one of the most deficient areas for L.D. college students and adults (Critchley, 1973; Gregg, 1983; Herbert & Czerniejewski, 1976; Blalock, 1980; and Johnson, 1981).

It is frequently stated that one learns to do by doing. Similarly, then, one must learn to write by writing. In order to write well, which is perhaps the most critical skill for college success, one must be able to choose words, organize and coordinate thoughts, see relationships, use correct grammar and phrasing, sequence letters, use appropriate spacing and format, and integrate both visual and motor skills.

In a study of college-level L.D. students, it was reported that written language instruction for L.D. students was becoming of primary interest at the college level (Gregg, 1983). This certainly became a priority area at Community College in Allegheny County where special instruction in word processing for L.D. students was established. It was thought that a word processor would help students stay on task longer and help to facilitate the editing process.

Use of Word Processing to Facilitate Written Language

As seeing often helps one to be able to determine what needs to be edited, it was speculated that the word processor would help L.D. students to visually display the work and would assist the instructors by making available a legible copy of the student's work. It was also reported that word processors helped to create a "permeable" writing environment in which the instructor could monitor a student's writing at the moment at which it was being written and could suggest changes which could be immediately incorporated into the writing (Morocco & Neuman, 1986). Some frequently cited advantages of using a word processor are the following:

a. There is no penalty for revising.
b. It is easy to experiment.
c. Interest is maintained.
d. Editing is simple.
e. It is less time consuming.
f. Frustration is minimized.

g. It is easy to get a perfect copy.

h. Spelling checkers are available.

i. They seem to produce significant results. (Calkins, 1980; Graves, 1983; Kerchner & Kistinger, 1984; and Morocco & Neuman, 1986).

Development of the Program-Phase I

Given the knowledge of written language problems of college-level learning disabled students and the potential benefits of using microcomputer word processing, the first step toward a coordinated "block" of courses for L.D. students began in the Fall of 1985 when word processing instruction was incorporated into a standard study skills course required of all incoming freshmen who scored below a certain criterion on placement tests. In this pilot program, one section of the standard study skills course was reserved exclusively for L.D. students. Eight first-term L.D. students were identified at registration the summer before classes began.

The word processing program used in this first semester was the Mousewrite adapted to the Apple IIe computers which were available at the college. The rationale for the choice of this program was that the command choices from the menu were operated with the mouse while all typing functions were done at the keyboard. Thus, the L.D. student could keep the command and typing activities as separate functions.

By the end of the first semester, several suggestions were posed. First there was a need for additional computers and for those to be placed in a central location. Several computers had been locked in a cupboard in the middle of the handicapped services office, thus making it nearly impossible for students to access and practice on the computer. There was also a need for a computer lab assistant. Students were reluctant to ask for the help that they needed from the office personnel as it was time consuming and often frustrating, particularly when office personnel could not help them. The Mousewrite was a wonderful idea for the MacIntosh,

but it was confusing for the inexperienced student who was uncoordinated and who could not type.

Finally, documentation of a learning disability was necessary. Many of the students identified at registration had overriding emotional problems. Some students were not prepared to work on computers, and having documentation, however little, might help to reduce the risk of matching the inappropriate type of individual with this type of word processing program.

Development of the Program--Phase II

In evaluating the success of the word processing component, and in addressing the other needs of learning disabled college students, an awareness of the need for true coordination of classes for L.D. students in their first term of college was noted. In the Spring of 1986, the Dean of Developmental Studies agreed to run two "block" programs for L.D. students. These "blocks" included coordination between study skills, micro-academic strategies, and college reading and career and academic guidance instructors.

An excellent program for L.D. students was underway. A lab assistant was hired in cooperation with the Office of Special Services, and each of the eleven students in the micro-academic strategies class had access to a computer during class time. Students in the "block" all had documented learning disabilities, and all were thought to be compatible with the computer, although not all of the students were able to type.

Many local high schools and the Association for Children and Adults with Learning Disabilities (ACLD) were now aware of and excited about the program. Each class was nearly filled with direct referrals, thus reducing the number of students who were identified at registration. Finally, the word processing program was changed from the Mousewrite program to Appleworks. The rationale for this was that Appleworks was a more widely accepted program for the Apple computer. It was also felt that it was an easier program for the L.D. students to utilize.

Development of the Program--Phase III

In January of 1987 the program was refined. There was now a computer lab, a computer lab assistant, coordination of reading, study skills, micro-academic strategies, and career and academic guidance classes. Only one section of fifteen students was registered before classes began. As the community college was beginning to voice its preference for the IBM computer and had to phase out all of the Apple computers, it was time to discontinue using the Apple computers and make the transition to the IBM personal computers.

To further facilitate coordination, there was an agreement to use a word processing program promoted by the English Department, which was to be used campus wide. This program was Word-Perfect College Version. This program's weaknesses included the fact that the program was command driven rather than menu driven. In using the command driven Word-Perfect word processing program, the L.D. students faced unfriendly commands while the menu driven system was very user friendly. Also, when using the command driven Word-Perfect College Version, the students could not make a back-up copy, and there was not a footnoting feature. This posed many problems for the college writer.

The strengths of the Word-Perfect College Version included well written documentation, reasonable cost, and incorporation campus wide so that students could learn one word processing system well and continue to use it throughout the academic tenure at the community college. Finally, Word-Perfect word processing software is compatible with the IBM computer which is reported to have more application in the business world, and thus a transferable skill to the work world would have been taught to the L.D. students.

Current Status of the Program

There is maximum coordiation for the Fall of 1987. This promises to be the most successful semester to date. Through

progression of each semester, it became more apparent that coordination of services was necessary. Without the cooperation of all the sections, this project certainly would have failed.

A final and key department will be included in the coordinated curriculum beginning with the Fall, 1987 semester. Learning disabled students will now have an opportunity to register for a special section of English, which will be a component of the coordinated curriculum. This course will provide instruction in writing which had, to date, been lacking in the coordinated curriculum. During the Fall semester, the learning disabilities specialist, with the backing of the developmental studies department, will go before the curriculum committee to seek approval of the Mico-Academic Strategies class as a permanent credit class in the developmental studies department. Thus, all classes in the coordinated block for L.D. students will be established as sections of approved college classes.

Merits of Such a Program

In retrospect, when this program for learning disabled college students began, it was felt that simply giving L.D. students a tool to facilitate their writing would be sufficient to meet their needs. As the course requirements for students in their first term at the community college were examined, there was a realization of the need for coordination across classes. This need for coordination became apparent when examining the large first term paper which was to be written on the topic of a career. Through the coordinated curriculum, instructors work together as a team to facilitate this writing event. The students are aware of continuity across classes, and instructors report that it was easier to teach their respective classes with the knowledge of what was happening in other classes.

An example of the way in which the coordinated curriculum functions can be seen in the final term paper on careers. The Career and Academic Guidance instructor discusses and explores the interests,

values, and goals that each student brings to the first year in college. The English instructor helps to develop the student's sentence structure, grammar, and paragraph development. In the Reading class, the student learns how to analyze and interpret what is being read, in addition to learning how to paraphrase, summarize, and outline material. In the Study Skills class, the student discusses and practices notetaking skills, learns how to use the library, and develops research techniques. Finally, all of this material is taken to the Micro-Academic Strategies (word processing) class where the student uses all of the skills gained in the other coordinated classes to compose the final career paper. This paper includes an outline, an abstract, a thesis statement, the text, and a bibliography; all are composed on the computer.

Currently, analyses of statistical data on the impact of the coordinated curriculum including the word processing component on the retention and overall academic success for L.D. college students are being conducted. Documentation for each of the word processing programs which was used has been rewritten, and activities have been developed for students in the initial stages of learning a word processing program.

Preliminary data indicate high levels of attendance not previously experienced in developmental classes in which L.D. students were enrolled. There was only a 9 percent drop-out rate in the developmental sequence of courses, and the retention rate of the students initially enrolled in the program as they are going into their second and third semesters of college is 75 percent. Many of the students continue to use the word processing skills to prepare papers and reports for the other classes.

All students enrolled in the program were able to master the word processing program during the semester in which they were enrolled for the course. Students in the "block" program for learning disabilities averaged a two-year gain in reading grade level. Students who word processed their papers reported that the word processor was

an extremely useful tool for the writing/rewriting process. The L.D. students who word processed the term papers received higher scores on the term papers than a group of similarly skilled L.D. students who did not learn to use the word processor.

The emphasis on, and instruction in, word processing combined with a coordinated first-term curriculum for the community college learning disabled student have all helped to contribute to the success that these students are now able to achieve in the community college setting. This success and skill-building provide the L.D. students with a solid foundation on which to build further college success.

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PLAE: An Innovative Model for Planning

Sherrie L. Nist Michele L. Simpson Kate Kirby

College reading courses generally devote time to teaching students time management techniques. The most common technique taught is the construction of a generic weekly schedule which students are supposed to follow. While scheduling may look good on paper, it is problematic in that students will construct beautiful schedules but not follow them. Yet there is a growing body of theory and research which emphasizes the need for self-regulation, distributed practice, monitoring of study behaviors, task-specific goal setting, and evaluation of performance, all of which are crucial aspects of effective planning (Brown et al., 1981; Paris, Lipson, & Wixson, 1983; Tierney, 1982). In fact, Shernberg's (1983) triarchic theory of intelligence includes a self-regualtion or planning aspect. He pointed out that "what matters is not the total time spent [on an assigned task] but the distribution of that time across the various kinds of planning one can do" (p.7). Additionally, good planning must be deliberate and controlled with priorities set and proper resources allocated (Hayes-Roth & Hayes-Roth, 1979; Paris, Lipson, & Wixson, 1983). It is evident that successful planning involves much more than the construction of the generic weekly schedule, and that it is important to teach underprepared college students how to plan effectively. The PLAE model, developed by the authors, offers a task-specific process for planning which aids students in regulating their own learning (See Figure 1). The PLAE model depicts planning as a four-stage process--Preplan, List, Activate, and Evaluate--in which students must allocate the appropriate resources, and regulate, monitor, and evaluate their own learning.

In Stage 1, Preplanning, students must gather information about the test and set goals by asking themselves a series of questions (See PLAE worksheet in Appendix). These questions help students to

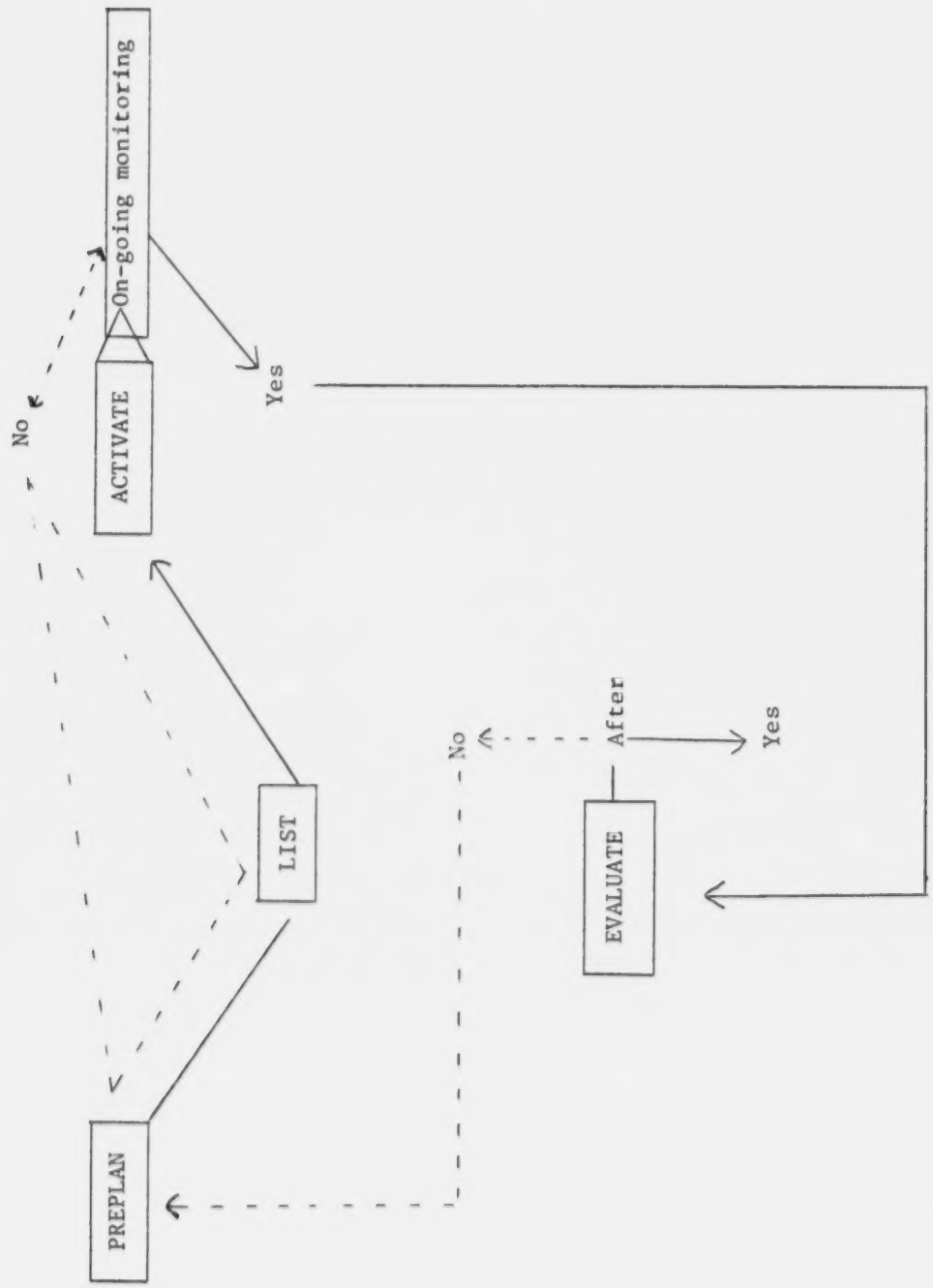

Figure 1. PLAE--A Model for planning study time and activities relative to test-taking

clearly define the task before they begin to study. For example, if students know that they are having a 50-item, multiple-choice test consisting primarily of higher level application questions, their allocation of study time may be very different than if the test were a 50-item, memory level test. Likewise, preparation for an essay test calls for the allocation of resources different from preparation for a multiple-choice exam. Unless students know specifics about the test and set their goals accordingly, the actual study plan will be inefficient.

Stage II, Listing, asks students to select and plan the best way to study for the test by carrying out three tasks: (a) listing the recitation strategies they plan to use and telling why they are appropriate, (b) constructing their actual study plans, and (c) checking their study plans (See PLAE worksheet in Appendix). As students list the specific strategies they will use, they must keep in mind the information gleaned about the test from Stage I so that they allocate the resources appropriate for that particular test. This is why PLAE requires students not only to list the strategy but also to tell why the strategy is appropriate. After their plans are completed, students should check to see that they have distributed study time, stated specific learning goals, allotted self-study time, and allocated the appropriate amount of time and resources to reach the desired goal stated in Stage I.

Stage III, Activating, consists of several questions which must be answered honestly as the plan is activated (See PLAE worksheet in Appendix). This on-going monitoring is important so that students can detect early whether or not their plans are working. When the preplanning and listing stages are carried out far enough in advance, plans can be easily modified during the activating stage if inappropriate or inefficient strategies have been selected. It is also at this stage that students get a better grip on what they know about a chapter and what they do not know. This metacognitive awareness is important for students to develop if they want to perform well academically.

The final stage in PLAE, Evaluating, occurs after the test results have been received. Students examine the kinds of items they missed and try to determine why they missed those questions. Such evaluation forces students to take responsibility for their own learning by helping them to draw conclusions from their test results which may provide information. Another advantage of the evaluation stage is that test preparation is examined in relation to prior expectations, the quality and quantity of time spent in preparation, and the appropriateness of selected strategies (See PLAE worksheet in Appendix). This stage also encourages students to think about changes to make in preparing for subsequent exams.

The PLAE model offers a more theoretically and pedagogically sound approach to time management than traditional methods. By using PLAE, students readily see the importance of using a task-specific plan, distributing practice, evaluating test behavior, and getting an early start in preparing for a test. However, as with teaching any study strategy, instructors should be aware of certain rough spots in the model--places where students may not follow the model or where thet may not follow it correctly.

Encouraging Use of PLAE

Problems in all stages of PLAE have a common element. It isn't that the PLAE model is flawed as much as it is that students applying the model to their own learning need more direct instruction, modeling, and discussion before they can become proficient in using it. Because PLAE differs so dramatically from anything they have tried before and because college study demands differ from those in high school, many students must make a number of study plans before they understand the importance of creating an appropriate plan and following it. However, in order for students to learn how to effectively apply PLAE, instructors should keep several key ideas in mind as they teach and model. First, instructors need to remind students repeatedly that making a study plan they can "live with" is essential. They should set realistic goals and budget blocks of study time during time periods they are fairly certain they can use. Forcing students to

think in advance about prior obligations and other activities that will influence their plans encourages them to make plans which best suit their needs. Encouraging students to think ahead during Stage I, Preplanning, aids in smoother progression during subsequent stages.

Second, when teaching students exactly how to make plans, instructors should emphasize the importance of having specific goals for each study session. For example, a goal of utilizing recitation strategies for a complete chapter would be inadequate. On the other hand, a goal of learning about the three types of memory by using the mapping technique would be a task-specific goal. At the end of each study session, students should realize the importance of taking ten to fifteen minutes to summarize what they have learned. In other words, they need to conclude each study session knowing that they understood and have learned some specific information, not merely hoping that they did. Additionally, at the beginning of each subsequent study session, students need to be encouraged to spend some time reviewing what they learned in previous sessions.

Third, students must be shown the importance of putting quality time into the learning task. More is not necessarily better. Students can spend two or three hours "looking at" material and learn little or spend forty-five minutes engaged in active interaction with a specific amount of information and learn much. One way to encourage the use of quality time is to have students who were successful on a test discuss their preparation. This way, students can hear from their peers that using appropriate task-specific goals for each study session coupled with distributed, quality practice leads to successful performance.

Fourth, instructors must emphasize the importance of the evaluation stage so that students may see the kinds of items that are consistently troublesome. Until students see patterns in their errors, they will continue to make the same mistakes on subsequent exams. Often students' errors are the result of their misreading many questions in which case they can be taught to be more reflective rather than impulsive test-takers. Other problems such as missing

higher level application questions or failing to idenfity proper examples for theories are more severe, but even these problems can be ameliorated once identified. Students need to learn that tucking their answer sheets away in the backs of their books without evaluating their performances to discover why they made errors will cause them to make the same mistakes over and over. One way to force students to evaluate their performances is by having them write journal entries on how they prepared for the exam and why they think they missed certain items. This writing forces students to think about and communicate what they perceive as both the positives and negatives of their test performances. The entry which follows indicates a realistic summary of one student's performance:

> I was really excited when I received my test back. I have been doing much better this quarter and I think part of the reason is that I feel more relaxed.
>
> Most of the questions I missed were factual. Part of the problem was that I was unorganized and my notes got mixed up. A couple of questions were answered carelessly.
>
> For the next test, I need to remember to take my time and think carefully. I need to stay organized and be responsible.
>
> I am pleased with my grades this quarter and I hope to keep up the good work.

The journal entry exercise coupled with the answering of the additional questions listed in the evaluation stage should enable students to identify why they missed items and then to work to avoid making the same mistakes again.

Much of the effectiveness of PLAE lies in the way instructors teach and encourage students to use the model. Students often have the idea that their study plans are for their instructors, not for themselves. Hence, some will make plans that would work if students would use them. Others will not use PLAE because they are resistant to trying new strategies. Nevertheless, instructors must present

PLAE, model its use in practical situations, and require application again and again before students will use it independently. While the instructional repetition may seem tedious at times, it will result in organized, well-prepared students who realize the importance of distributed practice.

Preliminary Research on PLAE

A pilot study on the PLAE model was conducted for three reasons. Most importantly, the authors were interested in determining the efficacy of PLAE in a realistic situation. Secondly, while researchers often suggest the importance of generative study strategies and distributed practice (Weinstein, 1978), very little research has been conducted on these topics. Finally, a recent study investigating the relationship between the use of appropriate study strategies and test performance speculated that some students perform poorly on tests because of chaotic or nonexistent planning strategies (Nist, Hogrebe, & Simpson, 1985.)

The subjects for the pilot study were 39 students enrolled in their second quarter of a college developmental reading course. The focus of the course was on teaching a variety of study strategies which students could later apply to learning material in regular college courses. None of the students had prior exposure to the PLAE model, but they had discussed time management and scheduling during their first quarter reading course.

During the first week of the term, all subjects read, prepared study plans for, and then took a 22-item, multiple-choice exam covering a portion of an American history chapter in a freshman textbook. In preparation for the pretest, students were told to use study strategies learned in their previous reading course but were given minimal suggestions for test preparation and planning. Following the pretest, over an eight-week period all subjects were taught the PLAE model of planning and applied the model in preparation for five different content exams. Throughout this period various plans were collected and discussed to ensure that students were constructing effective plans. Any study strategies and underlining

that students did in preparation for each content chapter were also collected to ensure that some interaction with the text material was taking place. For both plans and strategies, all subjects received both written and verbal feedback throughout the eight-week period about the quality of their plans, recitation strategies, and underlining and annotating. At the end of the quarter, all subjects were again given the American history selection to study and devise study plans in preparation for the 22-item, multiple-choice test.

The pretest and the posttest multiple-choice scores were analyzed using a related sample t-test. Statistically significant differences between the pretest and the posttest ($t = 7.90$, $p < .001$) indicated that raw scores improved over the course of the term.

The findings of this pilot study are obviously inconclusive. Since no control group was included, one cannot know how a similar group of students would have performed without exposure to PLAE. Additionally, at this point it is not known how much of the differences between the pretests and the posttests were due to factors other than the use of PLAE. Over the term, the students were exposed to study strategies (i.e., surveying, underlining, annotating, reciting, and reviewing) to a variety of content materials. Hence, concluding that gains were solely due to using the PLAE model would certainly be misleading.

What was observed, however, was that students' abilities to make effective plans increased. By the end of the quarter, most students were able to make and follow plans which distributed study time, had study sessions with specific goals, and were realistic in terms of their initial goals.

Problems in Studying Planning

While college reading instructors may intuitively realize the importance of devising ways to teach and to encourage application of planning, three major problems will remain in studying the effects. First, instructors can never be sure if students actually

follow their plans. Students have made plans that looked perfect on paper and would probably have produced high test scores if followed. Since students often feel as though they are making their plans for their instructors rather than for themselves, they need to be repeatedly reminded of the purpose of the plan: to provide structure and distributed study time for test preparation. The nature of the PLAE model reinforces this concept, but instructor monitoring is also very important, particularly in the beginning.

Second, it is difficult to determine how much effect planning has on performance since learning involves the interaction of many variables. Bransford's (1979) model of learning, for example, shows that learning and understanding involved the interaction of four variables: (a) characteristics of the learner, (b) criterial tasks, (c) nature of the materials, and (d) learning activities used. To isolate any one of these variables and then divide it into other variables for study is a difficult, perhaps impossible, task. While the authors believe that future research will confirm effective planning as an important factor in test performance, research may be unable to demonstrate precisely how important.

Finally, there is the ethical issue of teaching a good strategy to an experimental group and withholding treatment from a control group. Because the ability to plan effectively requires instruction that takes place over a period of time (in the case of the above-described pilot study), it is not possible to withhold instruction until the completion of the experiment and then teach the strategy to the control group. However, future plans include teaching more traditional planning procedures to a control group while introducing PLAE to an experimental group. Near the end of the term, PLAE would be introduced to the control group as an alternative planning strategy.

Conclusions

It is apparent that very little is known about the role of planning in test preparation and its effects on student performance. Much of what is known, however, is based on sound theoretical

principles and would appear to deserve further investigation. Since very little actual research has been conducted in the area of planning, more investigations need to be carried out in naturalistic settings. Instructors need to begin to think about finding out just how much influence the ability to construct and follow a good plan has on student test performance. While there are recognizable problems in studying the whole issue of planning, there is a need to learn more in order that students be taught the most efficient and effective study strategies.

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Appendix

PLAE

PREPLANNING STAGE - Step One (Gathering information about the test and setting my goals)

1. When is the test? (date, day, time)
2. Specifically, what are my other obligations that week?
3. What does the test cover?
4. How many items or questions will there be on the test?
5. What kind of test will it be?
6. What type of questions will be asked? Factual or memory level questions? Inferential? Applied?
7. How much does the test count in the total evaluation process?
8. What is my grade goal on this test?
9. How much time do I need to spend studying, reciting, and reviewing?
10. How will this study change my regular schedule? How will I find extra time?

LISTING STAGE - Step Two (Selecting and planning the best way to study for this test)

1. List the recitation strategies that you will utilize for this particular test. Then explain why you feel that the strategies you selected will be the most appropriate for this particular test.

   STRATEGIES — WHY THEY ARE APPROPRIATE FOR THIS TEST

   1.
   2.
   3.
2. Complete the plan of study on the back of this sheet.
3. Check your plan of study and ask yourself these questions:
   a) Have I distributed my study time over several days?
   b) Did I schedule at least two blocks of time to test myself over the key concepts? For a friend to test me?

c) Did I specifically state my goals for learning (e.g., I will learn the three theories of population growth)?

d) Did I allow enough time to complete each task?

e) Will my plan help me accomplish my goal that I set in the Preplanning Stage?

ACTIVATING STAGE - Step Three (Questions to ask myself while I put my plan into operation)

1. Am I following my plan? (If so, place a check under the column entitled "Did I Do It?" on your plan)
2. If not, Why? What is interfering? What are the obligations that I didn't account for?
3. How can I modify my plan without sacrificing my original goal (the grade I said I wanted on the test)?
4. Am I understanding and remembering the concepts? Are my selected strategies working?
5. If not, why? Should I select another strategy? If so, which one? Or should I change my study-time distribution? Or should I build in more self-testing blocks?

EVALUATING STAGE - Step Four (Questions to ask myself once I see my exam score)

1. Was the test what I expected?
2. Did I follow my plan for studying? If not, what events or situations interfered with my carrying out the plan?
3. How many hours did I study? Were those hours distributed or massed?
4. What types of questions did I miss? Detail and example? Key ideas? Vocabulary? Application?
5. Did I miss any questions because I misread them? How many?
6. Did I miss any questions because I didn't know or recognize the information? If so, where did that information come from? Lectures? Textbooks? Handouts? Films?

7. Is there a pattern to my errors on the test? (Check the appropriate ones below)

____ I missed questions over my lecture notes.

____ I missed questions that should have been in my annotations of the textbook's key ideas and examples.

____ I missed questions over handouts or films or outside readings.

____ I missed questions over key vocabulary.

____ I missed questions that asked me to make applications to new situations.

____ I missed questions because I failed to read an item carefully or overlooked key words like except.

8. Did I select the most appropriate study strategies for this test? If not, which ones would be more appropriate next time?

9. For the next test on _____ date_____, I will do these things to plan:

What?	Where/When?	How Long?	Why?

Total hours _____

Impact of Listening Skill Development on College Reading, Notetaking, and Study Skills

Mary O'Hair Sharon Wooden

Many college freshmen and sophmores utilize learning assistance centers housed in colleges to obtain assistance in a vast spectrum of academic skill areas (i.e., study reading, test taking skills, time management, etc.). A recent survey of students who used a learning assistance center in a small Southwest college revealed that the majority (75 percent) of the students surveyed felt that their notetaking skills during a lecture were inadequate and often virtually useless (O'Hair, Wooden, & O'Hair, 1987). In addition, students revealed that listening and outlining skills appeared to be the most recognizable pitfall.

Upon further analysis, a common misconception held by many students surveyed was that one could just write precisely what the instructor said and not have to worry about listening and concentrating on the instructor's message. Students who found themselves just writing down notes without really listening and processing the information discovered this method was misleading and often resulted in unproductive notes when studying for exams. One student even stated "I can daydream through the lecture and still write down everything that is said." These ideas seem to support the notion that at long as hands are kept busy taking notes, the minds (cognitive processes) are free to engage in other activities. In actuality, meaningful notes are a result of carefully planned listening for structure and fighting distractions, not random selection and writing (O'Hair, Wooden, O'Hair, 1987).

This article focuses on the success of an instructional listening enhancement program designed to help improve college reading and study skills. The framework for the program was adopted from the Conceptual Foundations in Listening Courses (O'Hair, 1982). The

program implementation and evaluation involved student input and direction. As a result of a collection of evaluation data based on student reports, three important student achievement skills are addressed: 1) importance of good listening skills, 2) listening improvement strategies, and 3) maintenance and evaluation of listening skills.

Importance of Good Listening Skills

Listening plays a significant role in an individual's life from infancy to adulthood. Yet, many tend to minimize its importance. According to Rankin (1952) and Werner (1975), in general, adults devote 42 percent to 55 percent of their verbal communication time (including speaking, writing, and reading) to listening. Business persons devote 37.2 percent of their time to listening, 25.8 percent to speaking, and 18.8 percent to reading (Weinrauch & Swanda, 1975). Yates' research (1979) reported that 40 percent of the average businessman's salary is earned listening, and for the executive it can amount to 80 percent. Listening constitutes the bulk of all communicative activities, and yet educators spend very little time developing good listening skills in their students (O'Hair, Wooden, & O'Hair, 1987; Devine, 1981; Landry, 1969).

Furthermore, listening is the first language skill that a child develops, and it is the most basic of the four major areas of language development. Children listen before they speak; they speak before they read; they read before they write (Wolvin & Coakley, 1979). The development of poor listening skills can disrupt and alter significantly the remaining three language processes.

In general, most college developmental programs ignore listening skill development. This program is unique or different from the majority of study skills courses taught at the university level due to the time allotted to the improvement of listening skills.

Improvement Strategies

Forty-five college freshmen enrolled in four sections of a

College Reading and Study Skills course at a small, Southwest college that designed and implemented an instructional unit which focused on the improvement of listening and study skills. Due to low high school grade point averages and below average college entrance exam scores, the students participating in this program were placed on probationary status and enrolled in the College Reading and Study Skills course in their first semester. The following program design emerged from four small group planning and course design sessions.

1. Early Identification of Barriers to Effective Listening - Early identification involved an informal assessment procedure based on the premise that identification will help reduce and eliminate barriers. Obstacles to effective listening were categorized as:

   a. Pace of Lecture - If the lecture is too fast or too slow, students tend to feel either bored or frustrated and consequently tune out.

   b. Personal Interferences - Emotional problems can often be distracting if the student allows self to think about the problem in class.

   c. Environmental and Self-Inflicted Distractions - Environmental factors can often distract a student. For example, classroom temperature may be too extreme, birds may be chirping outside, or even a student may be coughing nearby. Self-inflicted distractions may include wearing uncomfortable clothes to class or feeling fatigued from a late night of partying.

   d. Evaluative or Emotional Reactions - Students often find themselves criticizing a speaker's delivery or physical appearance rather than focusing on the message. Sometimes, a speaker may use inflammatory language which may upset the student and cause her/him to miss the content of the message (i.e., profanity; suggestive terms; racial, ethnic, or sexual slurs; or unpopular slang expressions).

   e. Avoidance of Difficult Material - Subject matter from the natural sciences, mathematices, or philosophy can often be

difficult to assimilate auditorily and thus avoided (O'Hair, Wooden, & O'Hair, 1987).

2. Improvement Strategies - After identifying problem listening areas, the small groups developed improvement strategies through a combination of attitudinal, cognitive, and skill development activities. The groups outlined the following skills oriented improvement strategies.

- Create an interest in the topic by discovering a way the topic could benefit one personally.
- Resist distractions.
- Listen to a wide range of material for practice to develop flexible listening habits.
- Listen for nonverbal as well as verbal messages.
- Listen for structure and ideas.
- Utilize a predict-then-confirm listening strategy.
- Use speaker pauses to decipher the message. (O'Hair, Wooden, & O'Hair, 1987).

3. Enhancement Strategies - First, students would fight distractions by keeping a daily journal log in which they would keep a list for each class of specific distractions reducing active listening in the class. After listing the distractions, the students would list coping strategies and both task and context statements to minimize or eliminate the distraction. The principal objective was that once the student can identify distractions and develop coping mechanisms on paper, the principle could be transferred to actual real life situations. Second, students devised a program in which each was required to listen to a wide range of material for practice listening strategies (i.e., news programs, Shakespearean plays, etc.). Third, the predict-then-confirm listening strategy required that students read the text and the notes in preparation for the lecture and generate questions (predictions) concerning the lecture content. Fourth, the nonverbal message (speaker pauses, facial and body language, eye contact, etc.) was examined and deemed very important for the listener to be cognizant of when listening for structure and ideas.

Maintenance and Evaluation

The director of the Learning Assistance Center evaluated the Listening Enhancement Program. To assess the effectiveness of the program, student progress in subsequent non-remedial college-level courses was considered. Transcripts reported that 85 percent of the students involved had improved their grade point averages by .5; 37 percent of the students improved by 1.00 (O'Hair, 1985). In addition, after completing the semester-long program, students were asked to complete a post-treatment survey. The majority of the students upon completion of the program reported a defineable improvement in their listening skills as evidenced in test scores, comprehensible notes, and improved textbook outlining and reading. In addition to improved student performance, the Listening Enhancement Program has been effective in maintaining a high retention rate of over 85 percent with the estimated college-wide retention rate of 72 percent (O'Hair, 1985).

Conclusion

The Listening Enhancement Program is an innovative program in developmental studies which is effectively meeting the needs of the provisionally admitted student. Key concepts within the program involve student awareness of listening problems, peer group pressure to eliminate ineffective listening habits and replace with good listening habits, and necessary practice time allotted for change to occur. Depending upon the size of the class, the specific needs, and the goals of the course, this design for listening improvement could easily be adopted for use by similar programs.

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Promising Practices in Selling and Telling About the College Reading Program

James E. Walker

This article focuses on public relations or telling the real story of what can and does go on in the context of college reading programs. The writer's purpose will be achieved if as few as two or three suggestions are acted upon by practitioners and administrators. In the continuing competition for funds, the developmental educator has to be armed with many ideas for promoting the college reading program. All of the practices described have been part of various programs across the country and have met with favorable responses from colleagues who have heard them described in professional meetings. The suggestions presented address concerns related to students, faculty, support personnel, and administrators. The outline follows that of Meeks and Eanet (1982). However, information presented does not repeat the content of their article.

Assistance to Students

There are at least three general areas to consider in providing assistance to students. When programs include immediate and accessible services, effective recruitment strategies, and specialized activities for special populations, they offer maximum assistance to students.

Immediate and Accessible Services

One of the most important ways to assist a student in a college reading and study skills program is to have facilities that are readily accessible. Students should be able to help themselves to notes and advice sheets on topics of study management, strategies, and surviving in college. When the author visited the University of Texas, Austin Campus, a magnificent array of free handouts was available to any student. Accessibility was enhanced because the

Center was located in the Student Union. A trained receptionist was available to lend immediate help.

A similar display of materials in handout form was at New Mexico State University in Las Cruces. The receptionist shared materials and explained the general operation of the Center during a staff meeting. One of her ongoing duties was to keep the shelves stacked with the items students were most in need of during the term. The immediate help available to students was impressive.

Recruitment

Students learn about program offerings through a variety of efforts. Perhaps the most important effort is that of providing programs that appeal to students. At many of the colleges today, seminars on learning styles are one example of short-term offerings which bring students into contact with the operations of the center. This contact allows students to learn about other services and can be an effective recruitment mechanism.

At the Rochester Institute of Technology, a sheet of non-credit and credit courses is distributed. The short-term offerings are especially attractive to students. Topics such as testtaking, anxiety reduction, learning/teaching styles, as well as the perennial favorite courses in vocabulary and rate improvement, are available. The staff members at the Institute divide the topics among themselves so that no one person carries the entire workload, especially with the noncredit offerings.

Specialized Services

Special groups of students require special considerations, and the returning student is one example. Programs can be modified to meet the needs. On some campuses many of these students are commuters. Evening classes and activities that address their needs might be feasible for those who work during the day. However, other returning students prefer daytime classes. Also, some returning students find it especially difficult to sit in classes with "peers" twenty years or more their junior. Counseling or special classes may help these older students adjust.

Students living on campus can benefit from special services. Dormitory workshops arranged through the resident advisors can serve two purposes. They can get students involved immediately because they are convenient and they can provide another avenue to make students aware of the services of the total college reading program. Typically the kinds of students one would contact by this route may not be the same as those who enter the center or program on their own initiative. The workshops can be short-term or single sessions to provide some basic information on study strategies with opportunity for questions at the end of the sessions.

Faculty and Other Professionals

Faculty involvement in program or center activities can enhance services to students. Specific strategies for informing, involving, and assisting faculty are detailed below.

Inform Faculty

Many colleges have weekly newsletters for staff and faculty to learn what is of interest to them. The services of the reading program can be brought to their attention in this way. Faculty can also learn about services directly offered for their own benefit.

Information can also be communicated through memoranda to department and division chairs and to all faculty members. These are especially helpful in notifying individuals about orientation meetings at the beginning of the academic year. It is the experience of this writer that once a letter is drafted, and revised, it usually can be utilized many times to serve this purpose. It is a matter of getting the initial copy completed and routed and then filed for future reference and use.

Involve Faculty

The services of the center or program must not be seen only for students who need remedial help. Faculty should know that developmental aspects of work extend to them also. Some concrete ways in which this can be done include involving faculty in drafting of master vocabulary

lists for the disciplines within the college. The list for each subject can then be used in courses or in sections especially geared for students with specific majors. This experiment has had excellent payoff in terms of respecting the work that developmental educators do in their classes. The lists only suggest a beginning point. Professors also can be asked to suggest key journals and references that students should know about and use to be successful in their chosen fields. At San Antonio College, a professor developed a vocabulary book to be used in specific sections of the reading course. The text is available in the college bookstore. This is one example of successful collaboration among colleagues.

Occasionally colleagues who know and respect the work of the program work cooperatively with developmental studies' instructors to devise materials like model essay questions and answers. This form of cooperation takes the guess work out of the preparation for taking examinations both for students and faculty members.

In addition, faculty members are often willing to donate texts and journals for which they no longer have use or room. At Northern Illinois University, materials were collected and center staff staked claim to those which were of immediate applicability for students.

Assist Faculty

With the prospects of deriving textbook readability estimates by using computers, a work-study student could be trained to run the mechanical facet of serve to members of the faculty. A complete printout could be made available and an explanation could be provided as to what this information means and what instructors might want to do about using textbooks that appear to be quite difficult for their students. This type of assistance is a way to initiate communications with colleagues on matters which affect their own instruction.

Faculty members can also be assisted in developing structured overviews or advanced organizers that help their students read the more difficult textbooks. They could also work with center personnel to do complete textbook analyses so that they learn how to select suitable reading materials for their students.

Alerting Administrators

Accountability is still in the forefront of most administrators' thinking. The constant pressure to justify programs and funding makes it important that developmental studies programs develop and provide data to administrators. Professional conferences and meetings, such as those held by the College Reading Improvement-Special Interest Group of the International Reading Association, provide opportunities to see examples and to hear descriptions of annual reports which colleagues in developmental programs have done for their own schools.

The importance of providing data is exemplified by the following incident. An administrator was informed of the services provided through the reading program when the director of that program was asked how student athletes might maintain their eligibility to play football. The director offered to test the incoming freshman squad to identify those who required immediate help. The overall result of the testing indicated that the team members were academically stronger than expected. This fact was readily noted by the coaches and administration and used as a part of their recruiting effort!

Resource Alternatives

There are other ways in which good public relations can be fostered within an institution and made known to administrators. For example, the services to handicapped students can be a key element in continuing the funding for developmental studies because the federal laws are monitored for compliance. Having examinations read for students or arranging tapings for added instruction should be made known to administrators and others who are often asked about such services to handicapped students.

A practitioner's array of information to support a college reading program would not be complete without a listing of colleges that offer credit courses in developmental studies. Sometimes administrators are finally convinced of the importance of such courses when there is the realization that many prominent colleges

offer them. A related issue here concerns the titles used for developmental courses. A listing of alternative titles can be developed as a result of perusing college cataloges in the library. Since students are subjected to pressures of marketing in choosing courses, a sprightly title could make a big difference in getting them to read the descriptions more carefully.

There have also been occasions when library and bookstore personnel and developmental studies' staff have mutually benefited from sharing information. Suggestions for new journals and titles of texts and general reference works can do much to support the credibility of the learning assistance staff.

Conclusion

The suggestions presented here are but a small set of possibilities for promoting promising practices in college reading programs. To paraphrase a commercial, college reading programs aren't just for remedials any more. Selling and telling the story could well rejuvenate efforts to continue in such a rewarding profession as is college reading and study.

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PART II

INSTRUCTIONAL STRATEGIES

Using a Weekly News Magazine to Develop Vocabulary and Cultural Literacy

Edward J. Dwyer Nancy Ross

The media of late is replete with reports of deficiences among college students concerning the world at large and their own country in particular. Hirsch (1987) codified much thought concerning the lack of awareness among young Americans in a scholarly treatise titled Cultural Literacy. Hirsch suggested that "without appropriate background knowledge, people cannot adequately understand written or spoken language" (pp. 56-57).

Comprehensive study of theory and research led Hirsch to further conclude that "to participate in the literate national culture is to have acquired a sense of the information that is shared in that culture" (p. 59). Continuing in this light, Hirsch proposed that "a consistent lack of necessary information can make the reading process so laborious and uncommunicative that it fails to convey meaning" (p. 60).

The quotes from Hirsch presented above offer much in the way of plausible explanations concerning the lack of reading competencies among many students entering college. For example, the student who can't locate Illinois on a map and/or understands little of the landscape of the plains is at a distinct disadvantage when reading something like "Illinois Journey" by Saul Bellow. Evident needs of students for acquiring more cultural literacy prompted establishment of a unit within developmental reading classes with that end in mind.

Procedures

The first order of the literacy was the posting of large wall maps in each of the two developmental reading classrooms. This source provided easy reference for locating various places. For example,

recent reports concerning troubles between Chad and Libya were made more meaningful by students locating these countries on the maps.

A next major step toward enhancing cultural literacy was enrolling all of the students (N=80) in a weekly news magazine educational program. The instructors receive all of the copies and dispense them in class. This seems much more efficient than having students each receive a copy in the mail.

Students partake in comprehension building activities; these activities are designed to promote awareness of the world around them as well as to develop reading competence. The purpose of this paper, however, is to specifically describe the vocabulary component.

The news magazines usually arrive on a Tuesday afternoon. The instructors skim the entire magazine using a highlighter pen to designate target words. The words are selected on the basis of evident importance and the likelihood that they are either not familiar to the students at all or they are only known in a limited way. The goal is to select words for eventual full concept usage. Full concept, in this context, means having the ability to use the word in oral and written language as well as understanding the word when it is heard or read. For example, the word "ozone" appeared in a prominent article in a recent edition of the news magazine. This word was selected as a target word given the concern of many relative to depletion of the ozone layer.

Designated words are then placed as entries in a vocabulary notebook. Appendix A presents a model entry and word set. Students are required to complete the following: 1) look up each word in an acceptable dictionary, 2) write the word in syllables, 3) write in the pronunciations guide, and 4) write the complete sentence where the word was found. The definition selected must fit the target word in the context it is used. Eventually, students are permitted to select from among the words presented. There is a minimum number of words that must be entered but students are always responsible for all of the words. For example, 12 words might be presented and students may be asked to select at least eight words.

Students are not required to write parts of speech, etymological information, sources, names of authors, or page numbers. This cuts down on the amount of clutter in entries and saves the students time. Also, focus on word usage and meaning is encouraged by limiting distractions. A prototype vocabulary notebook is maintained by the instructors for evaluation of student progress and comprehensiveness of entries.

Words are reinforced through repeated exposure. For example, the term "ozone layer" was used in the two issues following the issue where it was targeted. Also, target words sometimes are needed for a comprehensive response to an essay question.

Students are evaluated on the content and the legibility of the vocabulary notebook as well as on a comprehensive multiple-choice vocabulary test. Students are also given shorter examinations where they are required to fill in blanks from a selection of words

Discussion

The program appears to be successful. The target words seem appropriate. The students appear interested in learning the words, not only because of the evaluative factor but because of the evident high utility level of the words. For example, the target word "nepotism" would almost certainly appear in history courses and quite likely in sociology and psychology courses.

Further evaluation of the program is needed to estimate 1) long-term gains in vocabulary, 2) independent application of procedures once instructor-designated target words are no longer presented, 3) levels of student satisfaction with the program, and 4) contributions made to overall cultural literacy. A long-term goal is to establish a substantial word list containing terms critical for fully understanding social, political, and environmental problems frequently reported in news magazines. Although much further exploration and expansion of the concepts appearing herein are essential, the initial approach appears to be working very well and is an innovative strategy well worth considering in college developmental reading programs.

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Appendix A

Reading Class

21 Sept. 1987

Vocabulary from Time magazine. Please enter the terms presented below in your vocabulary notebook.

Sample entry: ar bi tra tion (ăr bi trā′ shən)

Def. the hearing and determining of a dispute between parties by a person or persons chosen or agreed to by both parties (Urdang, 1973, p. 67)

Sen. Though France supports Chadian President Hissene Habre's claim to the Aozou Strip, the Chirac government would prefer to have the issue settled by international arbitration (Greenwald, 1987, p. 32).

	Term	Story	Page
1.	arbitration	Raiders	36
2.	ozone	Science	57
3.	contras	World	36
4.	libertarianism	Nation	16
5.	debunk	Nation (cont.)	17
6.	axiom(s)	Antitrust	27
7.	antitrust	Antitrust	27
8.	propaganda	World	47
9.	burgeoning	Economy	50
10.	blockbuster(s)	Entertainment	55

Model Vocabulary Worksheet

Balancing Effective Methodologies: An Open Letter to a College Developmental Reading Professor

Berta Parrish

Dear Anita,

Congratulations on your new job! Believe me, I know how it feels to accept a position which includes teaching a course for the first time. I did the same thing about two years ago, so I understand your request for help. Like you, I had many years teaching high school reading and working with teacher training at a university. The challenge was to translate and adapt all those experiences, theories, and favorite lesson plans into a dynamic and effective college developmental reading program.

In this letter I have outlined and explained each instructional method I used and the rationale for each. I also included student reactions to help you choose the best methods for your college. I struggled with the prevailing theories and practices common with adult reading instruction only to find a battle for "the best Method" that was not really necessary. As you know, my personal philosophy is one of balance--physical, emotional, social, intellectual, and spiritual. If balance is required for the total health of an individual, wouldn't it also be essential to any kind of effective teaching?

I believe it is. I also believe it is the key to the success of the reading course I developed for entering freshmen. Knowing their educational backgrounds replete with workbooks, skill sheets, and silent sighs, I deliberately designed activities and assignments with emphasized groups, feedback, oral discussions, and self-monitoring of old and new skills. I tried to take the best of all the methods and blend them into a well-balanced whole, thus reaping the benefits of each. The methods I studied and combined were the following:

classroom and individualized laboratory instruction
content area technical and general vocabulary instruction
metacognition and specific comprehension skills approach
writing and reading
speed and flexibility
motivation/counseling and direct instruction
traditional and contract grading

Classroom and Individualized Laboratory Instruction

The first decision I made concerned the structure of class time. The university owned ten controlled readers and related materials. I knew they are old, and recent research questions their efficacy. But I also knew that students are fascinated by them. So, why not? I divided the semi-weekly class of 80 minutes into a 50-minute block of teacher-directed activity and a 30-minute period for individualized work on the controlled readers and personal notebooks. Surprisingly, the course evaluation revealed that 46 out of 87 students considered the controlled reader to be the activity which contributed the most to their reading ability improvement.

Content Area Technical and General Vocabulary Instruction

Since my students were entering the highly technical field of avaiation, I felt obligated to help them master the necessary technical terminology. But, at the same time, as a knowledgeable instructor I knew they needed to know how to learn new words--to become independent learners of the terminology that will be constantly changing during their professional lives. Was there enough time for both?

Fortunately, at this time I read about an interesting vocabulary self-selection technique (Haggard, 1986). For the first half of the course, the students recorded from 10 to 20 new words per week from textbooks. They wrote: 1) the word; 2) the dictionary pronunciation; 3) the appropriate definition; 4) the contextual sentence; and 5) an original sentence. Then every other week, we

made a class list by each student selecting and introducing the most important word from his/her list. This class list became a quiz during the intervening weeks.

The second half of the course dealt with general vocabulary by assigning the popular paperback 30 Days to a More Powerful Vocabulary (Funk & Lewis, 1971) and presenting, discussing, and practicing the vocabulary acquisition skills of context, sound, structure, and dictionary (Niles, 1971). These skills were related to the students' immediate reading needs by studying sentences and passages from textbooks and magazines. Together we analyzed the process of understanding unfamiliar words before any homework was assigned.

Metacognition and Specific Comprehension Skills Approach

The process approach was also employed to teach comprehension. As independent adult learners, it was vital that the students know explicitly how they were currently reading and how to improve. Metacognition is both the knowledge and control over thinking and learning. It gives the power to the individual (where it belongs) and not to a teacher or an answer sheet. But it's difficult because my students were not accustomed to being asked "How did you know that?" or "How did you get that answer?" Previously, the correct answer was the only important thing, not the procedures applied to obtain it. I taught metacognition comprehension strategies by modeling my processes of acquiring meaning and by questioning theirs to make explicit what was implicit.

On the other hand, individual comprehension skills were also presented, discussed, and analyzed in the context of passages and articles. Furthermore, certain students were referred to specific materials if they exhibited a weakness in making inferences, finding the main idea, or any other comprehension skill. This separate practice fed into the metacognitive approach because students were aware of how to correct themselves. Lab time gave me an opportunity to work individually with students on this and other contract assignments.

Writing and Reading

Fortunately, many reading programs across the nation are leaving the reading-in-isolation model and integrating reading with the other three language arts skills. Although the students did much more reading than writing, they wrote as a means of reporting and reacting to what was read. First, as part of their individual contracts, students selected, read, and wrote half-page summaries of three to five magazine articles of their choice per week. We reviewed summary writing in class and the directions of a properly written bibliographic entry. Writing summaries forced students to understand top-level structure (Shannon, 1985) even in their recreational magazine reading. Next semester I plan to adapt Judith Lambert's (1984) idea of periodically sharing summaries in small groups.

Other reading assignments which enhanced the language arts skills are the book reports. Three book reports were required of all students. A month was given to select, read, and report on each book. The first book was a free choice and an artistic book report was designed and shared in class. Options included the following: collage, map, timeline, advertisement poster, book jacket, mobile, peep-box, diorama, board game, and slide presentation. The second book report had to be on an autobiography or biography and a written creative book report was completed with a brief oral report given in small groups. The third reporting technique was a dramatic group presentation by several students who read the same book. Choices included game shows, interviews, talk show format, and recreation of crucial incidents. Many groups video- or audio-taped this report for class. Students rated the artistic report as the best, the dramatic presentations next, and the written report last.

A reading-learning attitude inventory given at the beginning of the term revealed that although motivation to improve was high, interest in reading was extremely low. Fifty percent of the students read under three books in the last year with 6 percent not

having read even one. Therefore, imagine how I felt when I read this comment on the course evaluation: "I learned to like to read."

Speed and Flexibility

If you ask the students which is more important, speed or flexibility, they naturally answer speed. . . and the more the better! I blended these approaches by teaching and encouraging both. The controlled reader practice and in-class timed readings promoted speed. Knowledge and application of the three factors of flexibility--purpose, familiarity, and difficulty--fostered a conscious decision about appropriate speed.

The first timed reading revealed an average speed of 191 words per minute (wpm) with 65 percent comprehension, a little below the 200 wmp which interferes directly with comprehension. The lowest speed was 132 wmp with 50 percent comprehension. After 14 weeks of using the speed machine and completing chapters in Efficient Reading (Brown, 1984), the average was 365 wmp with 85 percent comprehension, above the 350 wmp which is the average reading speed of college freshmen. The highest speed was 540 wmp with 100 percent comprehension.

Motivation/Counseling and Direct Instruction

As beginning college students with learning difficulties, naturally many personal challenges were occurring simultaneously with this class. Adjustment to college and roommates began before the semester started. Proper time management was essential early. Notetaking, listening, and textbook skills were needed the first day. All the study skills were introduced and practiced with an eye to motivation. After all, these were the students who did not meet success very often in school.

Direct instruction with video-tapes, filmstrips, and lectures was used for such topics as establishing goals, managing time, and reducing stress. After the presentations, class or individual needs became apparent. For instance, one class wanted information

on how to eliminate insomnia. Another class requested further material on hypnosis for studying. Several students came to my office to discuss related problems of a more personal nature. I found that just talking about the stresses of a new school, town, expectations, and relationships opened many students to personal conferences and counseling.

Traditional and Contract Grading

The grading policy was a true compromise. One half of the course was graded traditionally with percentages on the vocabulary quizzes, mid-term and final exam, book reports, and results of the standardized post-test. The other half of the grading scheme was the students' responsibility. They contracted for A, B, or C by agreeing to complete a predetermined amount of work in their notebooks: class notes, vocabulary self-selection words, controlled reader answers and chart, article summaries, comprehension checks and exercises from Efficient Reading (Brown, 1984) text, and any individual assignments for skills deficiencies.

I felt quite comfortable with this combined system. It rewarded motivation and effort as well as the final performance on the quantifiable tasks. The students felt that it gave them a greater chance to obtain the grade they wanted or needed. Consequently, I became a friend and a facilitator for their progress instead of an obstacle and an evaluator. I think this relationship contributed greatly to the success of the other methodologies.

Conclusion

As with any course or program, it works only as well as the teacher responsible. Otto (1986) rightly warned that "Reading educators talk a lot about well-balanced programs; we need to talk more about well-balanced teachers of reading--at the secondary as well as at the elementary level" (p. 287). I would like to add college developmental educators to this warning. So be careful to maintain a balance in your life in addition to teaching a balanced curriculum.

I wish you my best as you begin this challenge. I hope I have helped. Take what is relevant, discard (or file) the rest. Pass on whatever you would like. We're all in this together! Take care. Remember: balance is the password to effective teaching.

Enthusiastically,

Berta

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Conquering Test Anxiety: A Strategy to Share with Students

Walter Pauk

Student: What is test anxiety?

Teacher: The dictionary describes it as a painful uneasiness of mind over an impending test.

Student: Why is it painful?

Teacher: Because of the remembrance of failure on previous tests.

Student: But, that's what you think. What do other students think and say?

Teacher: They say something like this: "I get so up-tight when the test is handed out that I blank out and can't come up with the answers that I darn well know that I know." And when I ask them "And how do you know that you know?", they say "After a test, I look at my notes and textbook and find that I had all the right answers underlined and encircled. These were the things I studied; I read and reread them over and over again. I knew them cold! I tell you, it's when the test is handed out that I freeze."

Student: Tell me more. Why do you think this happens?

Teacher: Okay, let's start this way. Do you know the difference between recall and recognition?

Student: Aren't they the same?

Teacher: Well, no. Recall is when you can bring out, for example, a name from your memory without any hints. Recognition is when you can prove that you remember a name by being able to recognize it.

Student: I still don't understand. Can you give me an example?

Teacher: Okay. Who discovered Florida in 1513?

Student: Ponce de Leon.

Teacher: That's correct. You've demonstrated pure recall. You brought the name out of your memory unassisted by verbal hints or written-out choices. Here's another question. What's the capital of Florida?

Student: I know the answer but I can't come up with it.

Teacher: Would you recognize it if I listed some names?

Student: Yes, I think so.

Teacher: Okay, here are five: Miami, Palm Beach, St. Petersburg, Tallahassee, and Tampa. Which of these is the capital?

Student: That's easy now. It's Tallahassee.

Teacher: You're correct. You see, that is a perfect example of recognition. You couldn't recall the name, yet it was buried in your memory. All you needed was a hint of some kind to trigger the process.

Student: Alright. Now I know the difference between recall and recognition; but, what do they have to do with test anxiety, which causes me to freeze up and forget everything I studied?

Teacher: Your method of studying (reading and rereading, underlining and encircling, flow-penning and marking) always brings your learning up to the stage of <u>recognition</u> only, but not to the stage of <u>recall</u>. This is why, after a test, when you look at your lecture notes and your textbook, you are able to recognize immediately the correct answers. This is why, too, you were able to recognize that Tallahassee was the capital of Florida. For example, if the Tallahassee question were on a test, you would have been unable to recall it; therefore, you would have gotten a zero on that question. You see, most questions on tests require recall, not mere recognition.

Student: So, you're saying that I haven't been studying correctly--that is, I haven't been reaching the stage of recall.

Teacher: Yes, that's right.

Student: Oh, I see. So, counseling or plain will power will not wipe out test anxiety.

Teacher: Right! There's only one way to get rid of test anxiety, and it is not by counseling, not by will power, not by bravado, not by medicines, not by rereading your textbook all night, not by anything except studying in such a systematic way to enable you to recall most of what you studied. None of the other ways will work because anxiety is not the cause of test failure. Test failure is the cause of anxiety. Obviously, the only way to break the vicious cycle is to succeed on tests.

Student: I understand! Please tell me your systematic way of studying that will ensure my being able to recall all or almost all that I have studied.

Teacher: Okay! Here's what I'll do: My system is fully explained in a hand-out that I used in class. On these sheets, I assumed that a student would be starting just before a semester began; however, anyone can put the system into practice even in mid-term. Here's the hand-out (See Appendix A). You may study it in your room; then, if you like, return in a few days to discuss it in detail. Okay?

Student: Of course! Thanks a lot.

The above scenario has described a situation that might have occurred at the college level. Many students have problems with study techniques and don't know where to begin. Several aspects need to be mastered if students are to feel successful with their academic growth: knowing the textbooks, using questioning techniques, taking notes, and studying. Appendix A includes a hand-out to help students cope with test anxiety. [Editors' notations.]

Appendix A

TEST ANXIETY
(A hand-out for students)

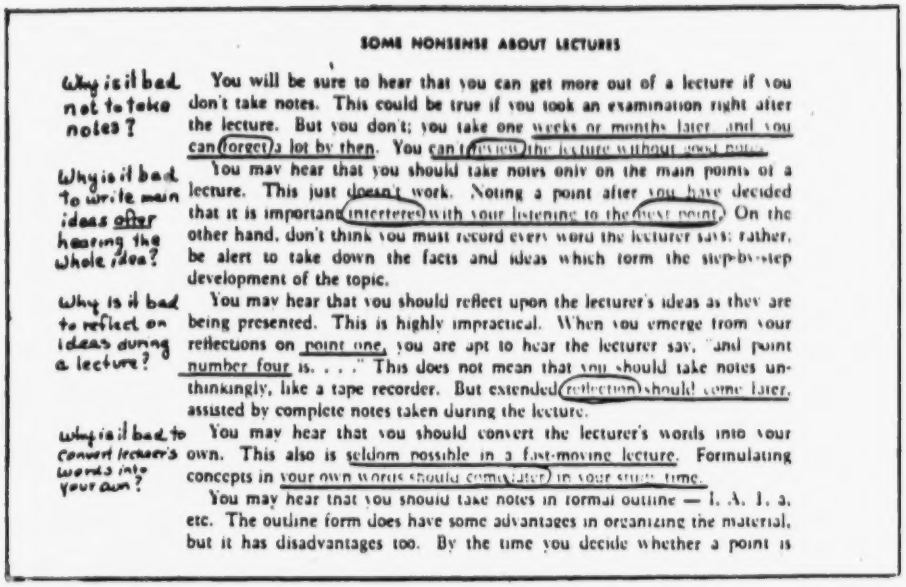
The best way to overcome test anxiety is to be super-prepared. Following are some guidelines that help you prepare superbly.

Buy Textbooks Early

Buy all textbooks early. Then, before classes begin, read carefully the preface of each book. Why? To get acquainted with the author. The preface is almost the only place where an author can tell you why he or she wrote the book, why it is different from others, and what biases are about the subject. Once you get to know the author as a real live person, you'll be able to carry on a conversation with him/her when you study the textbook. For example, when Professor _____ writes "There's a direct connection between _____ and _____," you can now say "Yeah? What's your proof?" Such a dialogue will make any otherwise dull text alive and more interesting.

Textbooks - Use Question Technique

When the first assignment is given, here's what to do: First, read about one page to get into the subject matter; then, go back to the first paragraph and ask "What's the main idea here?" Once you have decided on the main idea, write a brief question in the margin of the page. Then, opposite each question, underline very parsimonously only the key words and phrases that make up the answer. Go through the entire chapter in this way. Here is a brief illustration of the question-asking technique applied to a textbook page.



SOME NONSENSE ABOUT LECTURES

Why is it bad not to take notes?

You will be sure to hear that you can get more out of a lecture if you don't take notes. This could be true if you took an examination right after the lecture. But you don't; you take one weeks or months later, and you can forget a lot by then. You can't digest the lecture without good notes.

Why is it bad to write main ideas after hearing the whole idea?

You may hear that you should take notes only on the main points of a lecture. This just doesn't work. Noting a point after you have decided that it is important interferes with your listening to the next point. On the other hand, don't think you must record every word the lecturer says: rather, be alert to take down the facts and ideas which form the step-by-step development of the topic.

Why is it bad to reflect on ideas during a lecture?

You may hear that you should reflect upon the lecturer's ideas as they are being presented. This is highly impractical. When you emerge from your reflections on point one, you are apt to hear the lecturer say, "and point number four is. . . ." This does not mean that you should take notes unthinkingly, like a tape recorder. But extended reflection should come later, assisted by complete notes taken during the lecture.

Why is it bad to convert lecturer's words into your own?

You may hear that you should convert the lecturer's words into your own. This also is seldom possible in a fast-moving lecture. Formulating concepts in your own words should come later in your study time.

You may hear that you should take notes in formal outline — I, A, 1, a, etc. The outline form does have some advantages in organizing the material, but it has disadvantages too. By the time you decide whether a point is

The Classroom Lecture

Take complete notes of every classroom lecture. Your objective is to capture on paper the lecturer's facts and ideas so that you can take them back to your room for thorough study. In class, write swiftly, but neatly. It's a waste of valuable time to type or rewrite your notes. Do it once. Do it right the first time. Use the Cornell Notetaking System.

The Cornell Notetaking System

Rule your sheets for notetaking using this format:

Question Column	Notetaking Column
----- 2½" -----	---------- 6" ----------
Write question in this column. Align questions with the portion containing the answer.	Record the lecture as fully and as meaningfully as possible. Take notes in paragraph chunks. Do not use a formal outline. Be able to reproduce the lecture later. Later, underline only the key words, phrases, and sentences.

BEST COPY AVAILABLE

The six-inch column is where you write the notes of the lecture. Don't crowd them. Leave plenty of white space. Paper is relatively cheap. Here's the most important step: When you get back to your room or as soon after the lecture as possible read your notes from beginning to end--thus, recreating the original lecture. As you think about each fact and idea, make sure you have understood it clearly; then, in the left-hand margin, write a brief, meaningful question. Here is an illustration of a set of lecture notes with questions written in the left-hand margin.

	①
	March 23, 1987 (Monday) Physiology 201 - Prof. H. Evans
	A. Strokes
What is a stroke?	1. Damage to brain tissue - inadequate circulation
What is cerebral thrombosis?	2. Cerebral thrombosis - clot blocking artery to the brain
How are brain cells damaged?	3. Brain cells - damaged if do not get oxygen
	a. In a matter of minutes
What's a cerebral aneurysm?	4. Cerebral aneurysm - weak spot in a cerebral artery which may balloon & rupture = sudden stroke.
Five risk factors for strokes?	B. Risk factors for strokes
	1. high cholesterol, high blood pressure, cigarette smoking.
	a. also: diabetes & alcohol
Which is the most dangerous?	2. high blood pressure - most important
	3. Keep " " below 115 over 75
	C. Alcohol & stroke
Alcohol - blood pressure relationship?	1. Alcohol causes high blood pressure
	a. Stop alcohol - pressure drops
What's the risk to light drinkers?	2. Even light drinkers: 1 to 1½ ounces per month have twice the risk of nondrinkers
	a. non-drinking = decrease risk of stroke.

Reciting: The Road to Pure Recall

Before putting your notes away, do one more important thing. Cover the notes in the six-inch column, leaving exposed the questions in the left column. Then, read the first question aloud and recite the fact or idea that is in the six-inch column. Recite aloud, using your own words. After reciting, slide the blank sheet down to see if your recitation was on target. Do this all the way down through your notes. This recitation, without looking at your notes in the six-inch column, is the most powerful method known to psychologists for embedding facts and ideas in your memory.

Reciting the Textbook

The same recitation system can be used for studying textbook chapters. Just cover the textbook page, exposing only the questions in the margin of each page, then recite the facts and ideas in your own words. Recite over and over again until you get it right. Remember: if you can't say it now, you don't know it and you won't have the slimmest chance of recalling it later during the examination. In summary, during the exam, it won't be a case of forgetting because forgetting implies that you had something to forget. But, in this case, obviously, you never learned it in the first place.

Studying for Exams

Now, when a quiz or exam is announced, though your heart may start beating faster, you won't panic or be seized by anxiety. Rather, you will feel confident that you have all the makings for success. So, here's what to do.

First, take your stack of classroom notes and systematically select from each sheet the facts and ideas that you believe are the important ones. Write out these facts and ideas on another sheet using the Cornell format. Fill in the question column, too. Now, you should have reduced each day's lecture (four or five sheets) down to not more than one sheet per lecture. These new sheets are your master sheets. Your job, now reduced in size, is to recite until you master the facts and ideas on these new sheets.

Next, review your textbook in the following way. Covering the printed page, exposing only the questions in the margin, and reciting only those portions of the printed page that you believe are vital. Again, recite until you feel confident that you know your stuff.

Finally, now that you have worked hard from the first day of class to study your classroom notes and the textbook to the point of mastery, you will be ready and even eager to take the test or quiz. And you will do well.

Knowing your stuff is the only way to lick test anxiety!

Using Directed Reading Activities to Increase Students' Receptiveness

Keflyn X. Reed

College students, especially those enrolled in remedial and developmental reading courses, often resist many opportunities to read prose and poetry assignments. They may experience difficulty with reading assignments and are thus unlikely to engage in voluntary and independent reading activities. This attitude has a direct impact on students who must complete required reading assingments in literature courses.

A study was conducted with 589 freshmen enrolled in reading courses at a junior college in the southeast during the 1985-86 academic year. Of those students, 422 (71.6 percent) indicated that they read out-of-class assignments at least sometimes. The students were asked to respond to the following item: To what degree do you read out-of-class assignments? The response frequencies were the following: Never, 43 (7 percent); Almost Never, 124 (21 percent); Sometimes, 173 (29 percent); Almost Always, 161 (27 percent); and Always, 88 (15 percent).

Using the same student population, it was determined that 436 students (74 percent) found their out-of-class reading assignments to range from average to very difficult. The students were asked to respond to the following item: How do you rate your out-of-class reading assignments? The response frequencies were the following: Very Difficult, 62 (10.5 percent); Difficult, 169 (29 percent); Average, 205 (35 percent); Easy, 102 (17 percent); and Very Easy, 51 (8.5 percent).

In order to increase students' receptiveness and comprehension of literary forms, the author developed a set of directed reading activities to foster positive attitudes toward reading and to increase students' comprehension of written materials. The basic concept used

for planned activities was that students could experience success in reading by following an analytical process for textbooks, poems, short stories, and novels.

The objective of the textbook chapter analysis assignment was to enable the student to see how textbook chapters are arranged (See Appendix A). The information provided on the worksheet enabled the student to get a grasp of the structure of chapters, an idea of the chapter's content, and the understanding that the textbook is a resource and reference tool which may be used effectively. To complete the assignment, the students identified the name of the textbook, the title of the chapter to be analyzed, what they thought the chapter would be about, if there were questions at the end of the chapter, what the headings and the subheadings were, if the book contained a table of contents and an index, and the terms that needed to be defined before the chapter was read.

The objective of the poetry analysis assignment was to enable the student to realize that poetry can be understood on at least two levels, literal and figurative (See Appendix B). Through an analytical process, the students were directed to find literal information about a poem, providing the basis upon which figurative or interpretive concepts can be built. Once the literal elements had been identified, the student was directed to re-read the poem to concentrate on possible figurative meanings. To complete the assignment, students gave a literal summary of the poem, the type of poem, the explanation of symbolism, figurative language, and key terms, and a personal reaction to the poem. (Robert Frost's "Stopping by Woods on a Snowy Evening" worked quite well with this activity.)

The objective of the short story analysis assignment was to enable the student to identify the elements common to the short story (See Appendix C). Through the use of an actual story (Shirley Jackson's "The Lottery" or W.W. Jacobs' "The Monkey's Paw"), students achieved a two-fold purpose--they understood the structure of a short story in general, and they understood the selected short story in particular. To complete the assignment, the students

identified basic elements which included the author and the title, the setting, the main characters, the point of view, the episode, and the elements of plot (basic conflict, beginning situation, complicating incident, climax, and conclusion). The elements were taught by definition and specific example using the short story in class. Once the basic elements had been identified, students were guided to develop higher-level comprehension of the story.

The objective of the novel analysis assignment was to enable the student to identify the common structure and content of the novel as a work of literature (See Appendix D.) Students were directed to reduce key elements to simple words and phrases. Once those elements were separated from trivial details, the students were guided to develop a fuller understanding of the novel for a secondary purpose (e.g., to teach, to inspire thought on a controversial topic or issue, to amuse, to entertain). To complete the assignment, the students identified the name of the novel, the information on the author (which must often be gained from an encyclopedia or biographical dictionary), the theme of the novel, the main characters with brief descriptions, and the elements of the synopsis. Students were also encouraged to add a personal commentary.

Overall, the results were quite good. At the end of the quarter, 511 students responded to an assessment item. Seventy-eight students had either withdrawn from school or were absent when the final assessment was completed. Of those 511 students completing the assessment, 427 (83.5 percent) indicated that the analytical assignments/worksheets were helpful. The students were asked to respond to the following item: To what degree have the directed reading activities (analytical worksheets) been helpful to you? The responses were the following: Not Helpful, 1 (1.7 percent); Doubtful, 24 (4.7 percent); Average, 51 (10 percent); Helpful, 312 (61 percent); and Very Helpful, 115 (22.5 percent).

Responses to the item indicated that the directed reading activities used were perceived as helpful and motivated the students

to read the literary works required in their classes. Inventories and profiles given to the students at the beginning and the end of each quarter consistently showed that students' attitudes toward reading material improved as a result of using the worksheets developed by the author. Remedial and developmental students reported that they particularly liked to complete the worksheets as the worksheets provided a definite objective for the students to work toward. The students frequently mentioned that they did not mind completing worksheets because most of the work (i.e., the framework or identification of necessary elements) had already been done.

The activities were designed to help students become independent readers. The goal was reached partly because (1) students who used the assignments correctly began to realize that there is a structure to literary works, and (2) students felt that they could work independently to improve their comprehension through the use of the directed reading activities.

Appendix A

TEXTBOOK CHAPTER ANALYSIS

Name _____ Date _____

Name of the Textbook _____

Author(s) _____

Publishing Company _____ Date _____

Title of the chapter to be analyzed _____

_____

What do you think the chapter will be about? _____

_____

Are there questions at the end of the chapter? _____

List one of the questions, or turn one of the subheadings into a question.

_____

_____

Provide the answer. _____

_____

On what page does the table of contents begin? _____

On what page does the index begin? _____

List three (3) terms in the chapter with the definitions.

1 - _____ _____

_____

2 - _____ _____

_____

3 - _____ _____

_____

How many chapters are in the textbook? _____

In what course is the textbook used? _____

Appendix B

POETRY ANALYSIS

Name _____ Date _____

I. Title and Author

Title _____

Author _____

II. Summary (Literal)

_____

_____

_____

_____

III. Point of View, Mood, and Tone _____

_____

IV. Explanation of Symbolism/Figurative Language/Key Terms

_____

_____

_____

_____

_____

V. Personal Response/Reaction

_____

_____

_____

_____

VI. Type of Poem _____

VII. Purpose of the Poem _____

_____

Appendix C

SHORT STORY ANALYSIS

Name _____ Date _____

I. Title and Author

Title _____

Author _____

II. Setting

Time _____ Place _____

III. Main Characters

_____

_____

_____

_____

IV. Point of View

_____

V. Episode (the plot condensed into one sentence)

_____

_____

VI. Plot

Basic Conflict _____

_____

Beginning Situation _____

_____

Complicating Incident _____

_____

Climax _____

_____

Conclusion _____

_____

Appendix D

NOVEL ANALYSIS (BOOK REPORT)

Name _____ Date _____

I. Name of the Novel _____

II. Information on the Author

III. Theme of the Novel

IV. Main Characters (with brief descriptions)

V. Synopsis

A. Setting: Time _____ Place _____

B. Beginning Situation:

C. Complications:

D. Climax:

E. Conclusion:

VI. Personal Comment

Using a Metacognitive-Schema Approach to Teach College Reading and Study Skills

Alice M. Scales

Metacognition implies having knowledge and having understanding, having control over them, and having appropriate use of that knowledge (Tei & Stewart, 1985). Metacognitive skills that are involved in study reading include clarifying purposes for reading, identifying important aspects of the text, focusing attention on major content, monitoring as reading occurs, engaging in self-questioning activities, and taking corrective action when text has not been comprehended (Baker & Brown, 1984). Schema is a minitheory about things, people, language, places, and other phenomena in one's background of experiences (May, 1986), or using what one knows to make sense as one has experiences. Metacognition and schema were concepts that were examined and made use of in reading and study skills courses at a university in Pennsylvania.

Usage, then, suggested a metacognitive-schema approach that is inclusive of instructional plans that make provisions for preparation, for management, and for participation. By collapsing these concepts, the courses were organized to ensure that students would make use of their self-knowledge, their learned study reading skills, and their understanding of things, people, language, etc. to make sense from their textbooks and to apply that textbook knowledge to tasks appropriately.

Each time the course began, the instructor asked students for their reasons for taking the course and asked them to indicate what they knew about their reading and study skills when related: to words that they did not know, to language patterns in textbooks that they did not understand, to predicting meaning when the text was unclear, to self-management of their time, to taking notes and summarizing information, to using textbook clues as they studied,

and to preparing for and taking tests. A reply to their responses has been capsuled in a metacognitive-schema approach. The approach has been illustrated through a management system and an instructional process that the students and the instructor used as they worked through reading and study skills courses.

The reader is cautioned to recognize that concepts inherent in metacognition (i.e., knowing what we know, monitoring how we know) and schema (i.e., using what we know to understand the unknown) are evident in a number of organizational and instructional situations even when the terms are not used. For example, when students use self-questioning for study, they use a metacognitive skill.

Management Process

At the beginning of the semester students filled out two copies of a data sheet, a study reading behaviors form, and a study skills form (Scales & Biggs, 1983). The data sheet had blank lines for demographic information, for grade choice information, for commitment to fulfilling class expectations, and for citing reasons why students decided to take the course. Grade choices were satisfactory or no-entry and a letter grade. Students who chose satisfactor or no-entry received S on their transcripts if class work was satisfactory; if class work was unsatisfactory, no letter grade (no-entry) appeared on the transcripts. For those who chose a letter grade, their grade was computed within the A, B, C, D, F range. The letter grade students had more assignments to complete than the satisfactory or no-entry students.

Reasons cited by students on their data sheet for taking the course have been the following:

> I need it. I want to become a better reader and improve my study habits. I want to increase my vocabulary. I want to learn how to study. It will help me out in my future college career. I want to improve my reading comprehension. I need some help with study skills and testing. I would like to learn the best study habits

> and tips on improving grades. It will aid in other academic subjects and prepare me with better studying habits. It will improve my reading skill, letter writing, and vocabulary. It's going to help all of my studies plus notetaking ability. I felt it would help me organize my classwork and also improve my vocabulary and comprehension. I feel I need some help in study skills, etc. to be successful at the University.

Students kept one copy of the data sheet for their records; the other copy was returned to the instructor.

The study reading behaviors and the study skills forms were used to involve students in thinking about what they did as they read and studied. Students have reported that they skip, try to figure out the meaning, guess, look up, try to avoid, reread, and circle unknown words. When sentences did not make sense to them they got lost. They tended not to use titles, subtitles, study questions at the end of the chapters, summaries, conclusions, or self-generated questions as they read.

In terms of study skills, students reported that they did not usually study on weekends, studied very little during the week, did not begin to study for examinations at the beginning of the term, usually studied with distracting noises, and often did not have all study material available when they did decide to study. With reference to note-taking and summarizing, students reported that they did not make notes in their textbooks, did not mark their textbooks, nor take notes on notepaper. Also, they indicated that they could not tell when the writer had made an important point. Learning how to take a test was a major study skill for students. Overall, they reported that they were nervous when they took tests, that they did not read the whole test before they began to write their answers, that they did not schedule their time so that they could get through the entire test, and that they did not always answer all questions on their tests.

Second, each student received a copy of the course overview.

The course overview provided a brief description of what students could expect from the course during the semester. Goals, required texts, and requirements for the course were listed on the course overview. Goals for students were to use informal and formal tests to identify factors that might interfere with their reading, to develop their study reading skills, and to learn to manage their time efficiently. Requirements for the course included completing assignments, keeping records of their achievements, and attending all class sessions. In terms of textbook selection, Kaufman (1980) indicated that a problem has been that due to instructors' lack of preparation in how to teach college reading skills, they have tended to select workbook-type texts that did not permit students an opportunity to analyze, interact, refute, nor formulate opinions of their own about what was written in the textbook. Further, their textbook selections have been those with answers identified by the authors; answers that could not be changed. Each required textbook selected for this course provided opportunities for interaction, analysis, etc. Specifically, the following provided concentrated attention to various areas of study: (1) Reading to Achieve: Strategies for Adult/College Learners (Scales & Biggs, 1983)--provided concentrated attention for assessment and instruction in reading comprehension, note-taking, and other study techniques; (2) How to Learn and Study in College (Maiorna, 1980)--provided concentrated attention to self-management, self-motivation, and various study techniques; and (3) Gaining Word Power (Rubin, 1986)--provided concentrated attention to vocabulary development.

Third, students received a copy of the assignment sheet. That assignment sheet presented assignment dates for different sections of their texts as well as quiz dates. Whatever date a new assignment was made, the previous assignment would or should be submitted on that date. The assignment sheet has been invaluable. Sometimes students asked for two copies--one copy for their notebook and the other one for their room.

After students were introduced to the course through course

overview and assignment sheet, a standardized reading test (Brown, Nelson, & Denny, 1973) and an 115-item informal vocabulary test were administered to them. These tests were used as a pre- and as a post- measure; they were not used to determine students' grades. However, the vocabulary pretest was utilized to place students in an appropriate vocabulary textbook. Students who scored below 80 percent on the informal vocabulary test were placed in the Gaining Word Power textbook for vocabulary instruction. Students who scored above 80 percent were placed in a less repetitious vocabulary text, e.g., Vocabulary Resources for the College Student (Levine & Levine, 1980). Rarely have students scored above 80 percent.

Students studied how to fill out a weekly schedule (Scales & Biggs, 1983; Maiorana, 1980), and then they prepared their weekly schedule of activities. The class discussed flexing of schedules with the understanding that enough study time may not have been included in their schedules for some subjects and too much time may have been included for others. Whenever that occurred, students would adjust their time accordingly. Daily and weekly study-review study sessions were strongly encouraged. For example, students were told several times that they should not wait until one or two days before an examination to start studying for it. Studying for examinations must be continuous throughout the semester. Students were also told that the study-review that they did throughout the semester was studying for their examination. Such constant study-review encouraged over-learning of a subject. When students over-learned a subject, that knowledge was readily accessible. Hence, they could recall it in an instant for discussion, for presentation, and/or for examination. Study-review was to always include all notes and other material covered for a class to date. Following a carefully planned schedule ensured that students studied for their classes.

Students monitored their knowledge and that of their peers as they studied the How to Learn and Study in College textbook. For this text, a check sheet for key terms and questions was devised.

The check sheet presented the number of terms and questions to be answered from each assigned chapter. It also served to encourage evaluation of students' answers and guided discussion of their questions and answers with classmates and instructor. In class, students exchanged papers and decided, based on their reading, whether their classmate's terms were defined and whether questions were answered appropriately. Irrespective of answers that were written, students wrote helpful comments on the check sheet to their peers. After students had checked a classmate's paper, they signed their names on the check sheet; the check sheet, terms, and questions were then returned to the classmate. Subsequently, during that class period the total class was called together to discuss the chapter that they had read and checked. Students were told that at the end of the semester they would submit their check sheet, questions, and key terms to the instructor for a final evaluation. Also, they were told that they should have interacted with different classmates as shown by the signatures on their check sheet. That check sheet facilitated management of the course.

Another management and record keeping device was the Summary of Completed Assignments packet (See Appendix A). Upon completion, or as much as they opted to complete their assignments for the Reading to Achieve textbook, students indicated how much they completed and how they might use the information studied to help them in their other classes. For the Gaining Word Power textbook, they listed their grades earned for the four quizzes. For the How to Learn and Study in College textbook, students recorded the number of key terms and questions that they answered from chapters, the name of the classmate who checked their key terms and questions, the number of exercises completed were crossed out, and two of the most important points in the packet directed students to tell how fulfilling additional assignments, such as the library project, aided them in becoming more efficient students. In the final section of the packet, students listed pre- and posttest scores as well as grades that they had earned on examinations.

Toward the middle of the semester, students prepared for a conference with the instructor by filling out a conference form. Items on the form asked students to think about their achievement in the course and to think about how the instructor might assist them further. At a specified time during the regular class period, the instructor talked with each student individually about the progress and possible problems. Other study problems not covered in class were explored at that time also.

About four weeks before the end of the semester, students were given directions for their final examination project. A purpose of the project (written paper) was that it forced students to think about and to put into perspective several skills and experiences practiced during the course. Scholarship and format were evaluated.

An Instructional Process

Metacognition and schema directed the instructional process. Metacognition was referred to as what the student knows or believes to be be known and controlled, and schema was referred to as one using what is known to determine as well as to explore the unknown. First, as related to reading and study skills, how did students know when they knew something? An answer was found through the questioning-of-self strategy. Specifically, students practiced asking themselves "What do I already know about this topic?" Their answers to that question utilized their schemata. Having satisfactorily determined that they may have some knowledge of the topic, they then asked themselves "How do I know this?" An answer to that question probed their knowledge base. As students scanned major headings and subheadings in textbooks, they were taught to generate questions that they would attempt to answer. Generally, students practiced asking themselves questions from various assignments that they had to read. Whenever they did not want to generate questions about paragraphs or sentences, they used such generic questions as "What is this about?" or "What was said about it?" (Scales & Biggs, 1983). Plevnik (1981) stated that university students are in need of appropriate steps to

take to find the written information that they need and to read and understand it well. Students reported that consistent practice of this strategy helped them to understand texts as they read. It also helped them to remember to ask themselves questions whenever they had to read something that was difficult and whenever they found themselves daydreaming. Seemingly, it became their way of monitoring or ensuring that they understood what they were reading. Martin (1985) indicated that there is a need for instructors to teach college students how to generate questions at all levels of comprehension. Ryan (1982) pointed out that students who perceive knowledge as an organization of facts and concepts are better readers than those who do not. The questioning-of-self strategy assured that questions would be asked and that information would be organized. An example of this strategy is presented in the following comprehension activity. Students asked themselves the following questions prior to reading the passage.

Questions

What or who is this about?

What was said about it or them?

As the following passage was being read, students contemplated answers to the questions. Their answers may have been written in the margin or on notepaper as they read.

Passage

Government Officials

High ranking government officials who break the law may not be subjected to the same trial-by-jury as poverty stricken citizens who break the law. Newspaper reports of such officials often suggest that they were unfortunate individuals who, if found guilty, should not be sent to jail, but given a suspended sentence instead. Society, seemingly, is in no danger from such officials.

Another step was for students to organize the "what" and "who" information. Organization was as follows:

Organization

High ranking government officials

-- may not be subjected to same punishment as poor people

-- newspapers suggest that they should not go to jail

-- society is in no danger

A final step in this comprehension activity was for students to anticipate implications (read between the lines) from the passage.

Second, students enhanced their reading and study skills when they learned and used a variety of words and when they knew how to learn new words. In the Gaining Word Power (Rubin, 1986) textbook, students were exposed to and did practice word knowledge through the study of word parts and the study of words in context. Outside of independent textbook practice, students studied words in small groups. One small group activity included a study of word parts for meaning, combining the word parts to construct whole words, defining the whole words, and writing a paragraph that combined all of the whole words. The activity was as follows:

Study of Word Parts

Word parts -gram, uni-, contra-, spect-, and -ology were studied by a small group of students. Words constructed from the word parts were telegram, unicorn, contradict, spectator, and zoology. The paragraph written by the students was the following:

Just the other day I received a telegram from the zoology department at the University of Pittsburgh. It seems to my amazement that they captured a unicorn. This contradicts my belief in this animal, so I went as a spectator to view this animal.

Another group of students used word parts vis-, loc-, pseudo-, aqua-, and -naut to construct the words vision, location, pseudonym, aquatic, and astronaut. The paragraph written by the students was the following:

On Mars, an astronaut using a pseudonym was using his vision to find a location which had aquatic life.

With such activities students were able to use their metacognitive skills to expand their knowledge about words; further, they used their schemata to organize and make sense from what they knew. Throughout the course, probes such as "How do you know that?" were interjected. Students' responses to the probes indicated that a realistic response would be made if they were actively involved with the material. Simpson (1983) indicated that when students attend, interact, reconstruct, and elaborate upon the underlying meaning of text, learning is generally enhanced.

Students studied how to listen and take notes in classrooms and how to take notes in textbooks and in notebooks. For classroom listening, the class discussed how to minimize mind wandering and outside distractions. Practice and listening for main ideas, details, digressions, facts, and opinions were provided. Students listened to sentences, to short paragraphs, and to whole lectures. As they listened they took notes, and the notes were for main ideas, details, facts, and so on.

Pauk's (1984) directions for note-taking in the classroom were studied by students. Specifically, the class discussed and practiced note-taking strategies that would maximize efforts in writing key points during a lecture. Factors that encouraged students were pre-reading and writing on notepaper unclear text material before class. During the lecture it was determined that the students should use the words of the lecturer as much as possible to write their study notes. They should also use an abbreviated form of a word whenever possible. Reflection on isolated points during the lecture was discouraged since reflection requires concentrated time that may cause other important points to be missed.

Pauk's (1984) overall note-taking system that was studied included students' written notes from their classes, a rewritten and a reduced version of their notes for study, a time to rehearse their notes, a time to reflect on their notes, and a time for them to review their notes. Note-taking in textbooks and in notebooks (Scales & Biggs, 1983) was valuable to students. They practiced how to mark

their textbooks and write summary statements in textbook margins. For notebook note-taking they learned how to take only those notes that responded to their purposes for taking the notes. In other words, they asked themselves "What do I expect to do with these notes?" or "Why do I need these notes?" If notes were to be used for a discussion, they probably wrote short summaries; if used for an examination, the students probably wrote specific details.

Students' apprehension of using the library suggested a need for them to become familiar with various sections of a campus library. First, general information about libraries (Maiorana, 1980) was studied. Second, students worked through a written assignment that questioned them about several sections of the library. For Section One, General Information, students had to indicate dates and times that the library was opened, to indicate the time period for borrowing and returning books, and to indicate fines that were due for failure to return books. Section Two, Reference Service, is where students learned about The Reader's Guide to Periodic Literature, New York Times Index, Business Index, Library Information Retrieval Network, and other sources that can only be used in the library. In Section Three, Card Catalog, the students learned how to use the classification scheme that is utilized by the library. Practice with several call numbers assured students of the ease of using the card catalog. Section Four, University Center for Instructional Resources, is where students learned that they could produce visual aids to enhance their class presentations. Section Five, Resource Book Room, is where students learned that personal copies of supplementary and required reading materials may be placed on reserve by professors for student use. They also learned that if reading materials were not returned on time, then a stiff fine must be paid. Section Six, Periodical Collection, is where students learned how to locate bound volumes of periodicals and old newspapers that have been put on micro-film. Also, students learned where current journals and newspapers were located. Section Seven, ERIC, was thought initially by the students to be a person. The students' assignment was to

visit ERIC, learn how to use it, select an article that related to a topic that they had to study for another class, and summarize the article briefly. An experience with ERIC for undergraduate students was very rewarding. They acknowledged the benefits of this source and use if for other classes.

Test-taking techniques were also studied. Initially, students were under the impression that they were quick techniques that they could follow in order to pass tests. Fortunately, that myth was disspelled early in the semester. Students learned that passing tests included management of their time so that they had enough time to study as well as to apply a variety of reading and study skills. Managing their time so that they studied frequently served to advance their long term memory and understanding of the subject matter. At least three hours of study time per week for each one credit of class work was encouraged. That three hours was to be divided into no less that three study sessions per week. Studying is most effective when it is ongoing; shorter periods of time rather than one long period is better. Students learned that studying included the completion of assignments as well as constant review of all class notes and all marked text in textbooks to date.

To the extent that a variety of reading and study skills had to be applied in the test-taking process, students practiced and learned trigger words that were common in tests. Words such as define, discuss, compare, list, except, all, and not were studied so that students would know how such words could influence an answer on a test item. Students learned to read directions carefully for a test before they began to answer questions. In any test situation, unless the test administrator indicated otherwise, students were told to always glance over the entire test so that they would know how the test was organized, would know the type of test questions that were being asked, and could organize their time for working through the test. Students were also told that they should answer the test questions that they know the answers to first. Also, if some questions were worth more points than others, they should

answer them early in the test period. Questions that were hardest for students should be answered last. Irrespective of when questions were answered, all questions on a test should be answered. Guessing on tests is usually permitted. When students know that they will not be penalized for guessing an answer, they should guess. After all, their goal is to make the highest possible score.

Summary

The metacognitive-schema approach involved a management system and an instructional process. Integration of the two as students worked through the experience netted constant self-monitoring of their reading and study strategies, constant interacting with text, peers, and instructors, and constant application of study strategies to other classes. Implementation of the management system was realized through: student data, course overviews, assignment sheets, check sheets, records of completed assignments, conferences, and examinations. The instructional process was demonstrated when students studied and applied such reading strategies as questioning-of-self while reading and learning how to learn new words. Listening and note-taking in classrooms, note-taking in notebooks and textbooks, studying a library system, and studying how to take tests were part of the instructional process.

This approach as described was not intended to be conclusive; however, its use with college students has strengthened their reading and study skills. Anderson (1982) stated that training in the area of context generation for all readers may be helpful. When students generate context from written text, they engage themselves in skills such as interaction with text, formulation of opinions, and disagreement with the author. Such skills are necessary for efficient reading and studying. The use of an approach like or similar to the metacognitive-schema one described herein may insure greater participation for many college students.

Conclusion

In conclusion, students who have attended classes where this instructional approach has been implemented have made several statements. The statements included

1. This course was a challenge and a rewarding experience which makes life worthwhile. What makes it even better is the fact that one is learning.

2. These effective ways of studying can make a student's life easier on campus. Students can rely on themselves. . . . These methods can obviously help students to pull their grades up almost every time.

3. I have learned to become an efficient student from using methods [such as] . . . effective managing of my time, reading between the lines, questioning and marking my textbook, taking notes in class, and knowing the library system.

4. I feel that these experiences provide a solid base on which college students can build to attain academic success. . . . Obviously, there are personal differences, etc., to take into account, but if these experiences are used as guidelines during college, students will be able to learn and achieve.

5. I would like to say that managing my time, finding a source of motivation, learning through thinking, strategic questioning, marking texts, and studying the library system have made me aware of some productive and helpful ways to succeed in college.

6. . . . this course . . . has really helped me to get to use my valuable time more efficiently. Although the assignments were time-consuming, their repetition and importance is making other subjects, especially the reading of other texts, easier, and in some cases more fun to do.

7. By using methods of studying, a college student can greatly increase his chances of college success and obtain competency, flexibility, and awareness. . . . No one says college is easy, but if you work hard you can succeed. The personal satisfaction is a great feeling.

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Appendix A

Summary of Completed Assignments

Directions: 1. Bring this form to every class period.
2. Complete as directed for each text and other assignments.
3. Submit to the instructor at the end of the term.

1. Reading to Achieve: Strategies for Adult/College Learners

*Chapter 1	*Chapter 2	*Chapter 3	*Chapter 4
A,B,C,D,E, F,G,H,I,J, K,L,M,N,O, Chart	**	**	**

*Chapter 5	*Chapter 6	*Chapter 7	*Chapter 8

*Tell how much you have completed.
**For Chapters 2 through 7 tell how you may use or have used the information that you studied and practiced for studying for your other classes.

2. Gaining Word Power

QUIZ GRADES

Chapters 2-3	Chapters 4-5	Chapters 6-7	Chapters 8-9

(Appendix A - continued)

3. How to Learn and Study in College

Chapter 2	Chapter 6	Chapter 7	Chapter 8
#K.T. ____	#K.T. ____	#K.T. ____	#K.T. ____
#Ques. ____	#Ques. ____	#Ques. ____	#Ques. ____
Peer who signed checksheet ____	Peer who signed checksheet ____	Peer who signed checksheet ____	Peer who signed checksheet ____
Exercises:	Exercises:	Exercises: 3,5, 6,7,8,9,10,11, 12,14	Exercises: 3, 4,6
*Points:	*Points:	*Points:	*Points:

Chapter 9	Chapter 10	Chapter 11	Chapter 13
#K.T. ____	#K.T. ____	#K.T. ____	#K.T. ____
#Ques. ____	#Ques. ____	#Ques. ____	#Ques. ____
Peer who signed checksheet ____	Peer who signed checksheet ____	Peer who signed checksheet ____	Peer who signed checksheet ____
Exercises: 3,8,9,10,12, 13,17,18	Exercises: 3	Exercises:	Exercises: 4
*Points:	*Points:	*Points:	*Points:

Chapter 14	Chapter 15	Chapter 18	Chapter 19
#K.T. ____	#K.T. ____	#K.T. ____	#K.T. ____
#Ques. ____	#Ques. ____	#Ques. ____	#Ques. ____
Peer who signed checksheet ____	Peer who signed checksheet ____	Peer who signed checksheet ____	Peer who signed checksheet ____
Exercises: 3,4, or 5	Exercises: 3,8	Exercises:	Exercises: 4
*Points:	*Points:	*Points:	*Points:

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*For each chapter list the two most important points that you learned.

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(Appendix A - Continued)

4. Other Submitted Assignments

Tell how fulfilling the following assignments aided you in becoming a more efficient student.

A. A set of lecture notes from another class

B. A library project

C. Readings that were timed

D. Additions

5. Final Examinations: list your scores for each examination.

A. Reading (Survey) Pretest _____ Posttest _____

B. Vocabulary Pretest _____ Posttest _____

C. Vocabulary (Word Power textbook) _____

D. Reading and Study Skills Examination _____

E. Written Paper: A Final Project _____

PART III

EXPERIMENTAL RESEARCH

Instrumental Enrichment Porgram: A Pilot Project

Allen Greenbaum Diane Chambers JoAnn Crawford

As developmental programs continue to evolve, practitioners ask themselves if traditional approaches to instruction are adequate to meet the needs of today's college students. Some research and reports of practice raise serious questions as to the adequacy of ongoing programs. Meanwhile, other reports indicate that the most commonly used remediation tool, the isolated developmental course, generally does not improve a student's chance for either academic progress or retention (Berg & Extell, 1968; Bynum et al., 1972; Klingelhofer & Hollander, 1973). Further, success in developmental course work may not readily transfer to traditional academic disciplines (Fincher, 1975).

On the basis of experience, it is suggested that an underlying problem for underprepared students is the limited development of basic thinking skills. These skills form the foundation for basic skill development and higher level skills required to achieve success in mastering the academic curriculum.

A recent report by the Minnesota Higher Education Coordinating Board on Remedial/Developmental Education (1984) summarized its findings by echoing this concern:

> For learning to take place students must have acquired an intellectual curiosity and the discipline to engage in sustained study. . . . Reasoning, problem solving skills, and a sense of proportion and judgement . . . are critical to academic progress in post-secondary education. . . . It is these characteristics that students usually lack, not specific drill and practice in the specific skills of reading, writing, and computation. (pp. 13-14)

For 15 years the program has tested a variety of approaches for assisting underprepared students. These approaches include an academic tutorial component, skill building courses that combine the lecture strategy with small group and individualized instruction provided by peer group or assistants, individual student assessment, and advisement and counseling. Experience gained as a result of offering the program reinforces conclusions reached nationally: the skill building courses do not address the core of the problem--inadequately developed thinking and problem solving skills of the students.

Program Description

In order to investigate the effectiveness of one method of assisting students with their cognitive skills, a two-year grant from the Northwest Area Foundation Program on Active Learning to implement Feuerstein's Instrumental Enrichment Program (IE) was received. The premise of the grant proposal was that educationally underprepared students could be helped to become more active learners through the IE Program which specifically addresses student involvement in all aspects of problem solving and the transfer of strategies both to academic and real world situations.

Feuerstein (1980) observed that cognitive growth--the ability to perceive a problem, analyze it, and develop strategies for a solution--is based on mediated learning experiences. These experiences are those in which a supportive other person (i.e., instructor) is placed between the learner and the environment. This, he declared, was the principal means by which people develop the cognitive operations necessary for independent learning. He further pointed out that cognitive processes develop to the degree that mediated learning takes place, and that a principal cause of deficiencies in analytical activities is the lack of stimulation through the mediated learning experience.

If Feuerstein's assumptions are true, then it may be rare in students' college careers that they receive the opportunity to

increase cognitive skills. The traditional lecture approach, which comprises the bulk of the college learning experience, assumes a cognitive level of development that students have not achieved. Further, it is the approach least likely to develop the thinking skills students need.

Feuerstein's program, developed over a 25-year period, consists of a number of "instruments" (so called because each is instrumental in overcoming one or more cognitive dysfunctions). Each instrument is a systematic series of exercises, tasks, and discussions to target specific mental operations such as comparisons, analytic perception, classification, and numerical progression. With each exercise, process is emphasized over product. Students learn how problems are solved, not what the solutions are. Teaching IE requires flexibility, creativity, careful observation of students, and knowledge of special techniques for developing insight and applying cognitive processes. Teacher training in the classroom use of the instruments is essential and is conducted by a qualified IE consultant.

The exercises often appear simple to the students. For example, in the first instrument, Organization of Dots, students are asked to connect dots to make figures identical in size and form to given models. The exercises are not as simple as students anticipate they will be and the process of arriving at solutions must be carefully carried out. Initially, many students wonder what benefit there is in a class in which they are required to connect dots, but at the end of the course they admit that "those dots really made me think."

IE is used in or paired with a subject matter course, so the learner receives practical application in academic and real world situations. The instructor creates bridges from IE concepts to course content. For example, if comparative behavior is being developed in IE, the instructor creates lessons, discussions, and/or assignments in content area subjects which use comparison.

Program Models

For Year I, three pairs of courses were utilized. One course in each pair focused on Instructional Enrichment (IE) and a second course focused on skills development--spelling, study skills, and reading skills (See Figure I). Each pair involved a separate group of students meeting for ten weeks and spending a total of 30 hours on IE and 30 hours on skill development.

Year I (IE + skills course)

IE course	+	skills course	for 1 quarter

Year II

writing reading IE study skills combined course	for 2 quarters

Figure 1. Program models for first and second grant years

For Year II, the primary purpose of the continuation grant was to explore the effectiveness of using cognitive functioning as the central focus in promoting the academic success of underprepared students. One instructor worked with one group of students for two quarters, using IE as the core with skills development in reading, writing, and study skills. This model allowed for 20 weeks of IE training, a period of time more highly recommended by the IE trainers. Students met six times per week and received five credits for each quarter of participation. Typically, 50 percent of the class sessions was devoted to IE and the other half to skill development.

Student Reactions

Experience with student recruitment strongly indicate that students show a high level of interest in developing their cognitive skills when they learn that such opportunities are available. Even after students were fully apprised of the experimental nature of the program before registration, they all voluntarily chose to be included and accepted the challenge that the class would likely be quite different than other college courses.

In both years, during the initial three weeks of course work, students exhibited a great deal of discomfort as they realized how unusual the course was. For right-answer, product-oriented students focusing on process was difficult. However, most of them worked through their frustration as they came to understand the nature and the purpose of the course.

Student responses on the evaluation forms administered at the end of each program indicated that the students felt increased confidence in their academic ability and an increased confidence in their ability to interact and to cooperate with other students. Students believed they had improved their ability to solve problems, write papers, and organize their study behaviors.

The majority of the students also indicated they were able to apply Instrumental Enrichment (IE) to practical situations and also believed they had gained better than average skill in connecting IE to other academic subjects. A large number of students became aware of their impulsivity in attacking problems and felt that by the end of the course they had made considerable progress in formulating plans before attempting to solve problems.

Student perceptions of the value of the skills course also seemed heightened beyond those indicated in previous student evaluations. Students indicated that they learned the course content more thoroughly than had been indicated by previous students.

In Year I, the majority of students were older than average; they served as models and catalysts for others and set a serious

tone or class atmosphere. During Year II, the age distribution of the population was reversed with only three older-than-average students (one of whom dropped out of school early in the Fall Quarter). The immature behavior of 18 year olds set the tone for the class. Also, according to Piaget's levels of cognitive development, they were, for the most part, in a transitional stage between concrete and formal operations. The presence of two factors, chronological and cognitive immaturity, suggested that the students needed much more modeling, explanation, reinforcement, and practical experience. This translated into much more time on task needed to advance to the next level. Without the time provided in two quarters, very little progress would have been made. The pace was quicker during the second quarter as the students began to grasp concepts better and faster, but a great deal of the immature behavior lingered.

One student stopped by in the middle of the second quarter to discuss the course. She said she had thought about the experience a great deal after it was over and finally had decided what it meant to her. She said that IE taught her how to teach herself, and now she knows she can teach herself--often better than her instructors can. After two years, two other students insisted they would not be continuing in school if it had not been for the IE course.

Instructor Reactions

The instructors, both of whom had taught in the program for several years, had previously been torubled about the passivity of most students. With IE, they found that their students had increased enthusiasm, active participation, interest in learning, and demonstrated thinking ability. They discovered a high potential for significant application of cognitive functioning to skill building courses and found numerous ways to relate the IE process to the skills courses.

Also, the instructors found that through IE techniques their teaching was strengthened in terms of clarifying objectives, giving precise directions, guiding discussion, and refining appropriate

questioning. Constructing bridges from concrete IE exercises to more abstract subject areas was challenging and stimulating, but still, one instructor reported that it was the easiest time she has had teaching the basic skills.

In IE, the teacher must focus on process as well as on product, and the teachers believed this made them more careful observers of changes in student behaviors that might indicate either confusion or progress. Also, it made them more flexible in meeting both individual and class needs by varying teaching techniques.

During Year II, IE was combined with reading, writing, and study skills. The course was expanded to two quarters which allowed the instructor and the students to develop relationships among skills and to utilize the repetition and thoroughness needed for better understanding.

There were certain aspects of teaching IE that the instructors found to be very demanding. It was exceedingly time consuming to make constructive comments on the large numbers of exercise sheets that were assigned. Because of the overlearning through reinforcement principle that is part of IE, it was not really desirable to reduce these exercise assignments.

Planning for the integrated course took an enormous amount of time. This may have been partly due to only one instructor being involved in planning and development. There should be at least two people teaching IE at the same time to provide support and assistance. Another reason for the amount of time spent may be the nature of the IE program itself. There are many concepts and vocabulary terms to integrate and reinforce.

Both instructors agreed that IE training was well worth the time and effort. The IE training included not only content but a process by which students can more actively learn. Even if IE would never be used in their classes again, the instructors' teaching styles and techniques have changed to include more in-depth questioning of students, more opportunity to let students think through ideas themselves, and more opportunity for active student

participation in learning--all of which could be included in the instructors' methodology without specifically using IE materials. In addition, the increased understanding of students' cognitive functioning would enable the instructors to carefully plan future classes and assignments. All of this is likely to benefit the educationally underprepared college students.

Data

In order to examine the impact of the Instrumental Enrichment (IE) training on the academic success of the students, control groups were established. For Year I, students in a traditional basic skills course, reading skills or study skills, were compared to the corresponding experimental group.

In reviewing Year II, two different control groups were utilized. Group I consisted of a matched sample of students with equivalent basic skill deficiencies and basic skills courses as their counterparts in the experimental group. Control Group II had comparable pre-college characteristics (sex, age, test scores, high school ranks, and basic skills deficienvy) as their counterparts in the experimental group.

The dependent variables utilized were traditional measures of academic success--academic standing, grade point average (GPA), and persistence toward a degree.

Year I

An examination of the Year I students' academic standing, independent of whether or not a student was attending, indicated a significant difference between the experimental and corresponding control groups. Sixteen of seventeen students (94%) of the reading experimental group were in good standing. This compared with five of nineteen students (26%) of the control group in good standing. For experimental and control groups involved in the study skills course, the comparable figures were 60 percent and 35 percent, respectively.

A comparison of GPAs of students who were still attending indicated that the reading skills control group had a higher mean average (2.57) than the experimental group (2.44). However, because of the very low persistence rate of the control group, this mean represented only one person while for the experimental group it represented eight individuals. The study skills experimental group outperformed the control group with a mean GPA of 2.37 as compared to 2.18 for the control group.

With respect to persistence, the reading experimental group had ten students (59%) either graduated or still in attendance. For the control group, two students (10%) either graduated or were still in attendance. A review of persistence in the study skills experimental group showed eight students (38%) received a degree or were still attending. This compared with ten students (33%) of the control group (See Table 1).

3 Years Later

	Reading + IE		SS + IE	
	Exp.	Control	Exp.	Control
Academic dismissal	0	2 (11%)	6 (28%)	9 (29%)
Left school on probation	1 (6%)	12 (63%)	2 (10%)	8 (26%)
Left school in good standing	6 (35%)	3 (16%)	5 (24%)	4 (13%)
Attending on probation	0	0	0	3 (10%)
Attending in good standing	8 (47%)	1 (5%)	7 (33%)	5 (16%)
Graduated	2 (12%)	1 (5%)	1 (5%)	2 (6%)
$\bar{x}$ GPA of those attending	2.44	2.57	2.37	2.18
N	17	19	21	31

Table 1. Retention and GPAs of Experimental and Control Groups, Year I

Year II

In examining the academic standing of Year II students, thirteen (65%) of twenty students in the experimental group were in good academic standing, independent of whether or not the students were still attending. This was slightly greater than for either of the control groups, 55 percent and 60 percent, respectively (See Table 2).

2 Years Later

	IE with Study Skills, Reading, & Writing		
	Exp.	Control 1*	Control 2**
Academic dismissal	4 (20%)	4 (20%)	2 (10%)
Left school on probation	3 (15%)	2 (10%)	6 (30%)
Left school in good standing	5 (25%)	3 (15%)	5 (25%)
Attending on probation	0	3 (15%)	0
Attending in good standing	8 (40%)	8 (40%)	7 (35%)
$\bar{x}$ GPA of those attending	2.57	2.06	2.36
N	20	20	20

* matched by skill deficiency and basic skill courses taken
** matched by pre-college characteristics (sex, age, test scores, high school ranks, basic skill deficiency)

Table 2. Retention and GPAs of Experimental and Control Groups, Year II

With respect to GPA, after two years the experimental group had a higher mean GPA (2.58) than either of the control groups (2.06 and 2.36). Only in the area of persistence did the control groups have better or equal results when compared to the experimental group. Fifty-five percent of Control Group I and 35 percent of Control Group II were still progressing toward degrees. This compared to 40 percent persisting in the experimental group.

Conclusions

Instructor and student reactions indicated that although Instrumental Enrichment (IE) was demanding and time consuming, the experience was worth the effort. In addition to and because of what the students learned, they felt more confident about their abilities both in practical and academic situations, and instructors were able to observe the increase in self-confidence in a variety of ways. Instructors also saw improvement in their teaching which then transferred to their non-IE courses.

Data were collected and compared in three areas traditionally associated with academic success: academic standing, grade point average, and persistence towards a degree. In both years, every experimental group had more students in good standing than their corresponding control groups, with the most dramatic differences in Year I. It appeared that the IE intervention had a positive influence on the students for as long as they attended school.

With respect to grade point average, one of the experimental groups in Year I and the experimental group in Year II had higher grade point averages than their respective control groups. In the one situation where the control group outperformed the experimental group, low persistence in the control group made the comparison meaningless. Therefore, in all cases with sufficient data, higher grade point averages of those still attending would seemingly indicate a positive effect of focusing on basic thinking skills.

The data are most mixed in the area of persistence to graduation. In Year I both experimental groups showed a higher persistence rate, one dramatically, while in Year II one control group had a higher persistence rate than the experimental group and one a lower rate. Persistence appeared to be affected both by academic and non-academic factors. The instructor described a great deal of immature behavior on the part of the second year experimental class. It is possible that in this case non-academic factors outweighed any motivation gained from participation in the program.

When taken as a whole, student comments, instructor observations, and collected data strongly argue in favor of continued instruction in basic thinking skills. While continued research is necessary to identify both the best delivery process as well as the students most likely to benefit from the program, the authors are extremely confident that instruction in basic thinking in general and Instrument Enrichment (IE) in particular can be very helpful to the underprepared college student.

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Computer and Non-Computer Instruction for College Readers

Milford A. Jeremiah

During the past two decades, the use of computers has become a central part of the instructional process. Today, however, learning centers have become almost synonymous with the utilization of educational technology, and, more specifically, computer-assisted instruction (CAI).

This phenomenon came to fruition in the 1960s with the work of the Illinois PLATO staff and with that of Atkinson and Wilson (1969) at Stanford University. At that time, the focus of CAI was on the teaching of mathematical and reading skills at the elementary level. During the next two decades, however, CAI has been incorporated into the teaching and the learning processes and has covered a variety of disciplines such as art, chemistry, foreign languages, logic, music, philosophy, etc.

Several analysts have demonstrated various practices. Ettinger and Craig (1986) documented the use and the incorporation of the microcomputer in an existing art curricula while Pufahl (1986) showed how students' writing could be improved with knowledge of the microcomputer to produce new and revised drafts of their essays. Dillman (1984), in his experience with the microcomputer and the behavioral sciences, found it to be a writing, evaluating, and calculating tool. Larson and Roberts (1981), in their investigation with the microcomputer to promote social skills and esteem in learning disabled students, found an increase in these traits, especially when students were given a chance to share their computer skills with others through a tutoring program.

Regarding reading comprehension, several investigators (Atkinson & Wilson, 1969; Lysiak, Wallace, & Evans, 1976; Saracho, 1982) and reports from several research projects (e.g., Illinois PLATO,

Delaware/Pilot) explored the utilization of CAI in teaching reading comprehension skills. In most instances, these research activities were directed toward reading instruction at the elementary and the junior high school levels. In addition, the research findings were mixed regarding the effects of CAI on reading comprehension. For example, Kulik, Bangert, and Williams (1983) discovered that reading comprehension scores in grades 6-12 rose from 50 to 63 percent. For CAI users, however, these gains dissipated in longitudinal studies.

A study by Saracho (1982) found that 32 sixth-grade students liked the computer less but learned more with computer instruction than in other media. Even more noticeable in CAI studies were the findings which were debatable when factors such as achievement scores, sex, social class, and ethnicity were taken into account.

The present study was conducted to determine the efficacy of utilizing CAI as a tool for improving reading comprehension, specifically those skills which measure a student's ability to derive meaning at the literal and inferential levels of instruction. The format of this study could be described as tutorial in that the subjects had the capability for real-time decision making and instructional branching contingent on a simple response or on some subject of response. This procedure is different from what are known as "dialogue" programs in which subjects are free to construct natural-language responses, ask questions in an instructional mode, and, in general, exercise complete control over the sequence of learning events.

In addition, the theoretical framework governing this study could be considered as psycholinguistic in that the focus of reading activities assured reader involvement in the interplay of language and thought to derive meaning from the printed page. This theoretical postulate is important to note since many of the tasks in reading comprehension at the inferential level draw significantly on the reader's ability to integrate linguistic information with his/her experience and background.

Method

Subjects

Subjects (Ss) for this study were 30 freshmen students enrolled at a predominantly Black urban university. There were 16 males and 14 females. Ss were assigned to a developmental reading course as a result of their test performance on the Nelson-Denny Reading Test (Form A). The cut-off score of 50 points is at the 10.0 grade level equivalency. Subjects were randomly selected using table of random numbers from students who earned a raw score of between 40 and 50 points. Ten subjects were assigned to each group. From a population of 115 students, 30 were assigned to the various conditions. The students earned two semester credits as part of their curriculum load for the course. They also received a one-half letter grade credit toward their final course grade for participating in the study. Students were informed of this activity four weeks prior to its inception.

Design

Since pre-test scores were already available, a post-test control-group design was employed in which the independent variable was treatment computer-only instruction (COI); modified computer instruction (MCI); and teacher-only instruction (TOI), and the dependent variable was scores received on the reading comprehension section of the Nelson-Denny Reading Test (Form B). Analysis of variance (ANOVA) was used for data analysis.

Procedure

Subjects in the COI condition received three lessons during a 50-minute period twice per week for three weeks. Those in the MCI condition received three lessons during a similar period and for a similar duration once per week. Ss in the TOI condition were taught by the investigator for the same duration as those in the two previous groups.

Ss reported to a learning center on the days assigned for

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instruction. The center's attendants signed in the Ss on their entrance and exit forms for the study. A student aide facilitated the operation of the computer terminals. During the reading comprehension phase, Ss recorded their answers on notebook paper, and the answers were checked against those provided by the computer in the tutorial mode. The Ss' worksheet was placed in the folders in order to validate the actual completion of an assignment and also to ensure attendance at the center. The post-test was administered to Ss at the end of the three-week period.

The group identified as TOI attended classes at the same time as the COI and the MOI groups for the same duration. The method of instruction consisted of the investigator's explaining the various levels of comprehension (i.e., literal and inferential), utilizing materials from the students' textbook to reinforce these skills, and conducting in-class quizzes to ascertain the students' mastery of these skills. The post-test was administered to Ss at the end of the three-week period.

Materials

In the COI and the MOI conditions, Ss utilized the Apple II Computer for instructional purposes. In the latter condition, however, instruction was computer-assisted and teacher-assisted. The time was equally divided between these two experiences.

Materials consisted of college-based reading selections from the natural and social sciences (e.g., "Splitting the Brain" and "An Extraordinary Woman") recorded on floppy disks. These disciplines were selected because they are frequently encountered by first-year college students and, in some instances, their level of difficulty has proven to be a major obstacle. Utilizing the Fry Readability Formula, the materials were written at 11.0 grade equivalency. Based on the students' performance, the reading level of the materials was not a factor in reading comprehension.

Results

The means and standard deviations for reading comprehension in

all three conditions are shown in Table 1.

Condition	Mean	S.D.
COI	24.1	10.8
MOI	16.3	8.72
TOI	27.2	10.1

Table 1. Mean and Standard Deviation for All Groups on Comprehension Measure

From the data, comparable means were obtained for the COI and the TOI conditions. The mean score for the MOI condition was considerably less than the other conditions. However, since the resultant mean and standard deviations are not rigid statistical analyses in and of themselves, the data were examined utilizing the ANOVA and the results are shown in Table 2.

Source	SS	df	MS	F
Between-groups	615	2	307.5	2.94ns
Within-groups	2818	27	104.3	
Total	3433	29		

Table 2. Analysis of Variance of CAI Revealing Scores for the COI, MOI, and TOI Conditions

From the above data, the obtained F was less than the critical value of 3.35 (F=2.94; df 2/27; p 0.05).

Discussion

The results of this study suggest that there was no significant difference between the COI group and the TOI group when comprehension scores were examined. It is true that the means for the COI and TOI groups exceeded the MOI group. This difference in performance on reading comprehension might have been attributed to several factors.

First, the reading comprehension skills identified (i.e., determining the main idea, recalling facts, making generalizations, and drawing inferences) constitute the core of skills-based reading instruction for college students. Students may already have been proficient in these skills prior to participating in this study. Consequently, one would not expect to see any discernible growth in knowledge, regardless of the mode of instruction employed. Second, such skills could also have been internalized without the assistance of the instructor or of the computer. Third, the utilization of the computer could have been a novel feature in itself, and the subjects might have been motivated to excel in these skills. In short, the hawthorne effect might have been evident here in that Ss in the COI and the TOI conditions could have considered themselves as special students who were given extra care and attention by the investigator, thus accounting for greater mean scores than those in the MOI group.

Conclusion

The aim of this study was to investigate the efficacy of utilizing the micro-computer as a tool for teaching reading comprehension in a learning center with computer-assisted tools. The data indicated that there was no statistical significance between the teacher-oriented mode of instruction and that of the computer. The modified group did perform below the two previous groups. The difference in performance of this group might have been attributed to the fact that the subjects divided their cognitive energies between the teacher and the computer sessions. Consequently,

the students might have been unable to focus their total cognitive energies in either direction.

Furthermore, given the small sample of participants, it may be difficult to draw any broad generalizations from the study. What is needed are larger samples investigated over a longer period of time to determine with more validity the efficacy of such investigations regarding computer utilization and reading instruction as part of the design and purpose of learning centers.

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On The Inside
President's Message 3
Washington Update 3
International News 5
News for Councils 8
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wins award 11
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